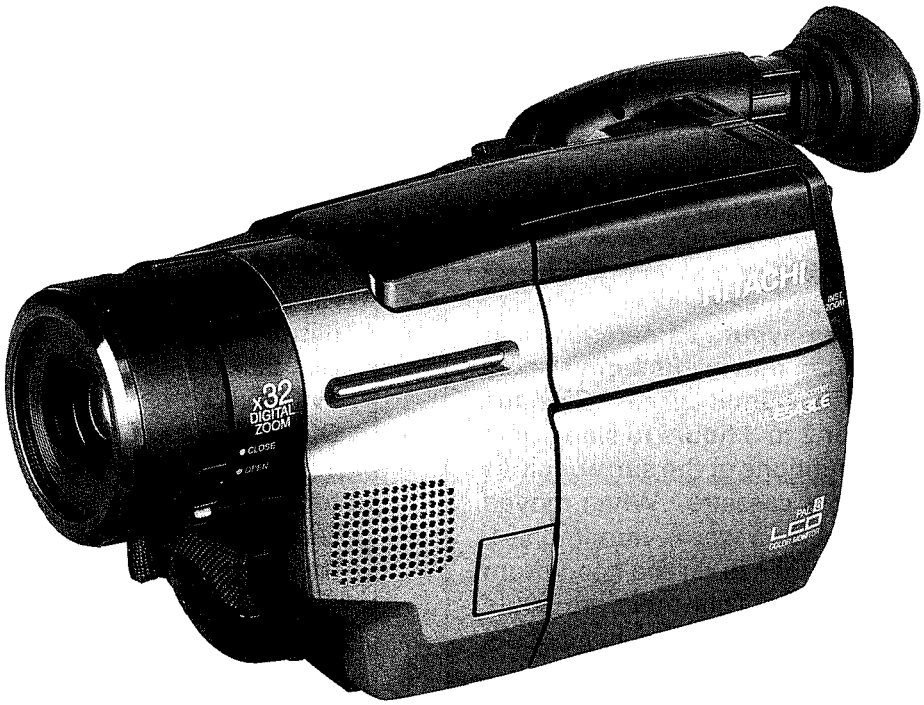
V28528

HITACHI

8mm VIDEO CAMERA/RECORDER

VM-E543LE (UK)



Instruction manual

To obtain the best performance and ensure years of trouble-free use, please read this instruction manual completely.

8

PRECAUTION

■ ***No water, dust or sand***
Be careful that no water, dust or sand enters the camera/recorder because it may cause trouble and accidents.

■ When you shoot at a scene which contains an extremely bright object such as the sun or a light source, a bright vertical bar may appear in the picture.
Your camera/recorder is functioning properly, but the solid-state pickup device (C.C.D) usually causes this as an inherent characteristic. Try to avoid shooting an excessive bright object directly.

■ Do not leave the viewfinder lens and the liquid crystal facing sunlight for a prolonged period, or the phosphorescent surface of the cathode ray tube and the LCD panel may be damaged.

The liquid crystal display (LCD) panel is made by highly precise technology. More than 99.99% of its picture elements (pixels) are effective, but some (less than 0.01%) may appear as coloured bright dots. This does not indicate a fault as the LCD panel stretches the limits of current technology.

MOISTURE
Avoid operating your camera/recorder immediately after moving it from a cold place to a warm, humid place. Give the camera/recorder 2 to 3 hours to stabilize in the ambient conditions of the surroundings before inserting a cassette. When moved from a cold place to a warm, humid place, moisture may condense on the head drum inside the machine. This moisture could cause the tape to stick to the headwheel and damage the headwheel or tape.
When a small amount of moisture is sensed, "TAPE" flashes in the viewfinder or LCD monitor. Remove the cassette and set the CAM/OFF/VIDEO switch to OFF, then wait for about one hour.

NOTES:
- This unit uses 8mm video format cassettes.
- It records and plays back in the SP mode (20.05 mm/sec.).

WARNING: To prevent risk of injury or damage to your camera/recorder and the AC adaptor/charger, use only the specified batteries and AC adaptor/charger.
Batteries; VM-BPL13, VM-BPL27 and VM-BPL30. (The VM-BPL13 is supplied with this camera/recorder.)
AC adaptor/charger; VM-ACE4E (UK)

BE SURE NOT TO LEAVE IT IN A PLACE AT HIGH TEMPERATURE EXCEEDING 60°C, OR ITS INTERNAL PARTS MAY DETERIORATE. BE CAREFUL NOT TO LEAVE THE UNIT IN THE FOLLOWING PLACES:
- *** Inside a car with the window closed and in direct sunshine.**
- *** Near heating appliances.**
- *** In direct sunshine in summer.**

WARNING: It is permissible to record television programmes only in the event that third party copyrights and other rights are not violated.

Important for United Kingdom
The mains lead on this equipment is supplied with a moulded plug incorporating a fuse, the value of which is indicated on the pin face of the plug. Should the fuse need to be replaced, an ASTA or BSI approved BS 1362 fuse must be used of the same rating. If the fuse cover is detachable never use the plug with the cover omitted. If a replacement fuse cover is required, ensure it is of the same colour as that visible on the pin face of the plug. Fuse covers are available from your dealer.
DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.
If there is no alternative to cutting off the mains plug, ensure that you dispose of it immediately, having first removed the fuse, to avoid a possible shock hazard by inadvertent connection to the mains supply.

IMPORTANT
The wires in the mains lead are colored in accordance with the following code:

Blue = Neutral, Brown = Live

As these colours may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:
The wire coloured BLUE must be connected to the terminal marked with the letter N or coloured BLUE or BLACK. The wire coloured BROWN must be connected to the terminal marked with the letter L or coloured BROWN or RED.
On no account connect either of these wires to the terminal marked E or by the earth symbol ⏚ or coloured green or green and yellow.

FEATURES

Single-Unit Convenience and Ease of Operation
Your video camera/recorder combines the functions of a video camera and a video tape recorder in one lightweight, easy-to-use instrument. This eliminates interconnecting cables and simplifies operation.

Record and Playback Capability

Record — Your camera/recorder can record directly from the built-in video camera.

Playback — Video/audio played back by the video recorder or fed directly from the camera may be viewed and heard on a TV receiver/monitor by using the audio/video output cable.

2.5-inch Colour Liquid Crystal Display (LCD) Monitor

Digital Zoom up to ×200
Digital zoom magnifies the image up to 32 times in normal use, 130 times when the zoom mode is switched, and 200 times when instant zoom is used at the same time.

Digital Effect
The digital processor in this camera/recorder allows you to record picture and add special effects. You can select five modes — 16×9 mode, negative/positive mode, ×200 digital zoom mode, half-mirror mode and mosaic mode.

Programme AE (Auto Exposure)
The camera automatically determines the shutter speed and aperture according to the brightness of the subject.

Auto Focus Power Zoom Lens
The 16× autofocus zoom lens uses video auto focus system to automatically maintain focus and to allow you to zoom in and out for tele or wide angle shots at just the touch of the zoom button.

Wireless Remote Control is Provided

Fade-in/Fade-out
Use this function to make the picture appear and disappear gradually. You can select four fade modes — fading-in from a white picture (white fading), fading-in from a black picture (wipe fading), fading-in while zooming (zoom fading) and fading-in a black-and-white picture (black-and-white fading).

Automatic Title Recording
This function automatically records the created title on the tape together with the date for about 10 seconds after recording is started.

Date Search
The date search function memorizes the start and end positions of recordings you made on a specific day so you can easily locate those positions later as long as the cassette is left in the camera/recorder.

> With this camera/recorder you can view the picture being recorded or the playback picture whether on the LCD monitor or in the viewfinder. Opening or closing the LCD monitor switches the picture to appear on the LCD monitor or in the viewfinder. The following text describes the operation assuming that the viewfinder is used as a major monitor device.

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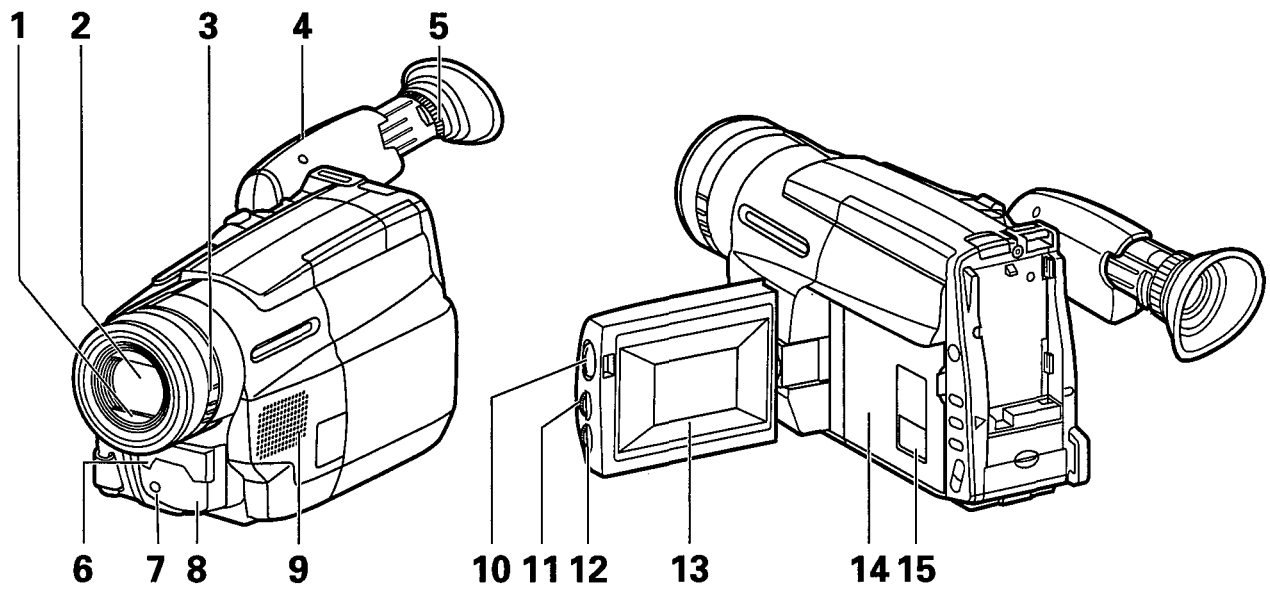


1. Lens Door
Slide the lens door opener to open and close the lens door. To protect the lens, keep the lens door closed when not recording.

2. Lens
F1.4 (4 ~ 64 mm) 16× power zoom lens features with auto focus and auto iris functions.

3. Lens Door Opener
Slide the opener to open and close the lens door. Align with OPEN to open the lens door for recording. Align with CLOSE to close it.
Hold down the small button in the opener as you slide it to CLOSE. However, you need not to hold it down to slide the opener to OPEN.

4. Electronic Viewfinder

5. Diopter Control
To use the electronic viewfinder, turn this control for your optimum focus adjustment.

6. Microphone
Sensitive to sounds coming from the direction in which the camera is pointed.

7. Record Indicator
This indicator lights up to indicate that the camera/recorder is recording.

8. Infrared Ray Receiving Section
Receives infrared rays from the remote control unit.

9. Speaker
You can listen to the recorded sound.

10. OPEN Button
Push this button to open the LCD monitor.

11. Bright Control
Use this to adjust the brightness of the LCD monitor screen.

12. Volume Control
Use this to adjust the volume when viewing a played back picture on the LCD monitor.

13. LCD Monitor
You can view the pictures as they are being recorded and play them back immediately after recording on the 2.5-inch LCD screen.

14. Cassette Holder
Slide the EJECT switch to open the cassette holder. Be aware of the cassette direction when inserting.
NOTE: Power source must be connected to open the cassette holder.

15. Cassette Holder Close Button
CAUTION: Be sure to press this button to close the cassette holder. Otherwise, the tape may become slack and may be damaged.

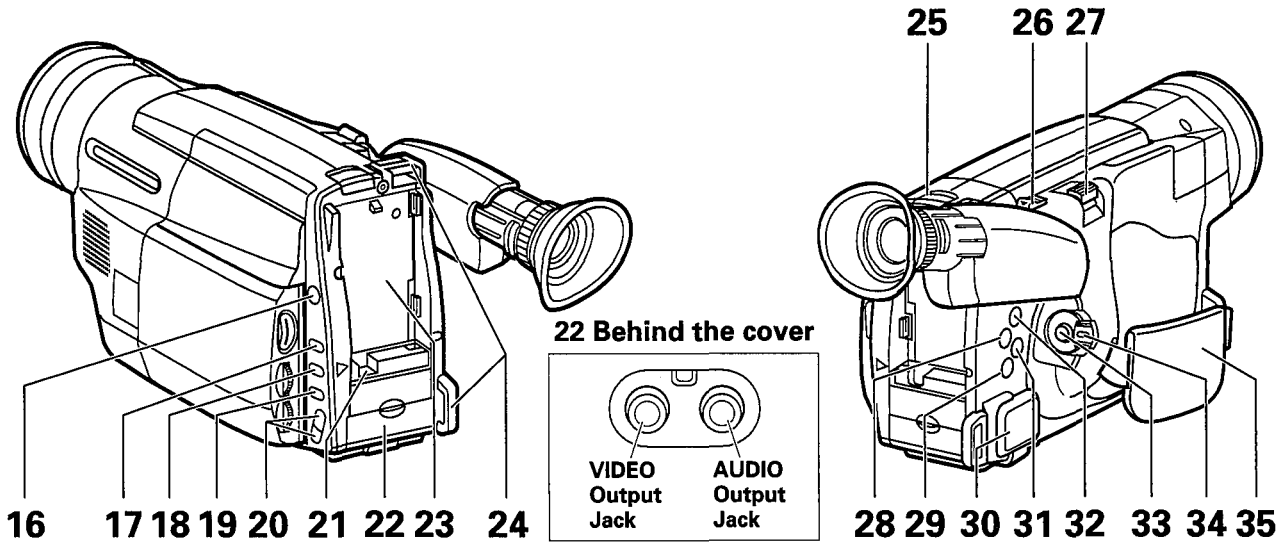
16. INST. ZOOM (Instant Zoom) Button
Use this button to magnify the image being recorded 1.5 times momentarily.

17. D.EFFECT Button
Use this button to add special effects to your recording. You can select five modes — 16×9 mode, negative/positive mode, ×200 digital zoom mode, half-mirror mode and mosaic mode.

18. FADE Button
During recording you can add a professional touch to your recordings by fading in and out of the scenes. You can select the four fade modes — the white fade, wipe fade, zoom fade and black-and-white fade.

19. DATE/DISP. Button
When the CAM/OFF/VIDEO switch is set to CAM, this button can be used as the DATE button; set the date and time, and select the date display you want to record. In the VIDEO mode, the DATE/DISP. button is used as the DISPLAY button.
NOTE: Be sure to insert the clock battery before setting the date and time or creating a title.

20. FOCUS Control Buttons
Press these buttons simultaneously to switch between automatic and manual focusing.
When "FOCUS" is not displayed in the viewfinder or LCD monitor, focusing is automatic.
If these buttons are pressed at the same time and "FOCUS" appears, the camera/recorder enters the manual focus mode. For manual focusing, press the ▲ or ▼ button to bring the subject into focus.



21. DC IN Jack
When using the AC adaptor/charger, connect one end of the DC cord (provided) to this jack and the other end to the DC OUT jack of the AC adaptor/charger. When using the car battery cord (optional), connect this jack and the DC OUTPUT jack of the car battery cord.

22. AUDIO/VIDEO Output Jacks (Behind the cover)
You can use the audio/video cable (provided) to connect this jack to a TV when viewing the playback picture on the TV, etc.
- Connect the yellow plug of the audio/video cable to the yellow jack (VIDEO OUT) and the white plug to the white jack (AUDIO OUT).

23. Power Supply Attachment Section
Attach the battery pack (provided) here.

24. Shoulder Strap Slots
Attach the shoulder strap here.

25. BATTERY EJECT Lever
Releases the battery attached to camera/recorder.

26. EJECT Switch
Operates with the CAM/OFF/VIDEO switch either on or off, if a power source is connected to the camera/recorder.

27. Power Zoom Control
This control performs zooming electrically.
"W": Picture becomes wider gradually.
"T": Picture becomes telescopic gradually.

28. PLAY Button
Used for playback of tape.
NOTE: When the camera/recorder is in record/pause (stand-by) mode, pressing and holding this button will play the tape at normal.

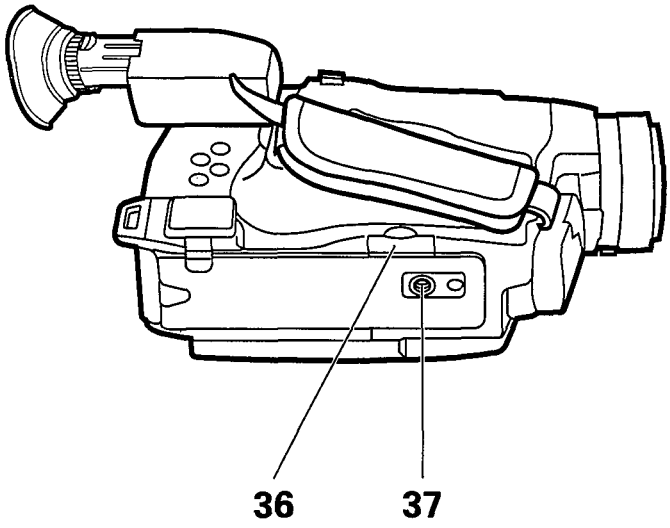
29. STOP Button
The STOP button is used to stop playback, rewind, and fast forward operations. The STOP button has no effect during record operation. Also use STOP button when setting the date/time.

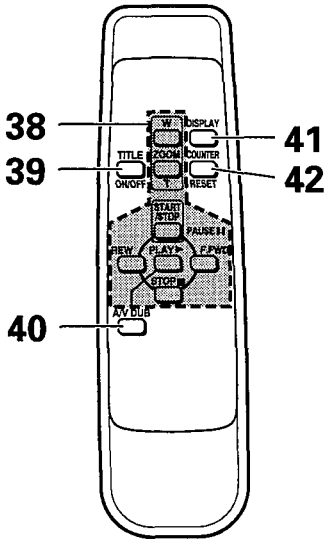
30. Audio/Video Output Jack (Behind the cover)
Use the RF output adaptor (optional) to connect this jack to a TV to view the pictures played back by the camera/recorder.

31. REW/REVIEW Button
Press this button during stop or fast forward mode, and fast-rewinding starts. Press the button during playback of tape, and the tape is played back in the rewind direction approximately 5 times faster than the normal speed to confirm the recorded contents. Press PLAY button to return to normal playback mode or press STOP button to stop tape movement ("F-SEARCH AND R-SEARCH", page 17). Also use this button to review the last few seconds of the tape you are recording. Use REW/REVIEW button when setting the date/time.
NOTE: You can also visually scan backward when the camera/recorder is in record/pause (stand-by) mode by pressing and holding this button.

32. F.FWD Button
Press this button during stop or rewind mode, and fast-forwarding starts. Press the button during playback of tape, and the tape is played back in the forward direction approximately 7 times faster than the normal speed to confirm the recorded content. Press PLAY button to return to normal playback mode or press STOP button to stop tape movement ("F-SEARCH AND R-SEARCH", page 17). Also use F.FWD button when setting the date/time.
NOTE: You can also visually scan forward when the camera/recorder is in record/pause (stand-by) mode by pressing and holding this button.

33. Start/Stop Button
This button is used to control the camera/recorder. When this button is pressed with the camera/recorder set to the record/pause mode, the tape runs to start recording.
When this button is pressed again, the tape stops and the camera/recorder enters the record/pause (stand-by) mode. This button may also be used to display a still picture during playback mode.





34. CAM/OFF/VIDEO Switch
This switch turns the camera/recorder on and off. Set the switch to CAM for camera recording, and to VIDEO for playback. Hold down the small red button as you slide the switch to CAM or VIDEO. You do not need to hold down the red button to slide the switch to OFF.

35. Hand Strap
Adjust to best fit to your hand. (Refer to page 7.)

36. Clock Battery Compartment
Pull the battery holder and install the lithium battery (provided).

37. Tripod Mount Screw
Use this screw to mount the camera/recorder on a tripod (generally available).

38. Camera/Recorder Control Buttons
These shaded buttons on the remote control function the same as those on the camera/recorder.

39. TITLE ON/OFF Button (only on the remote control)
Use this button to store a title in memory or recall the stored title and record it superimposed on the picture being shot.

40. A/V DUB Button (only on the remote control)
This button is used to record new audio and video in place of existing audio and video.

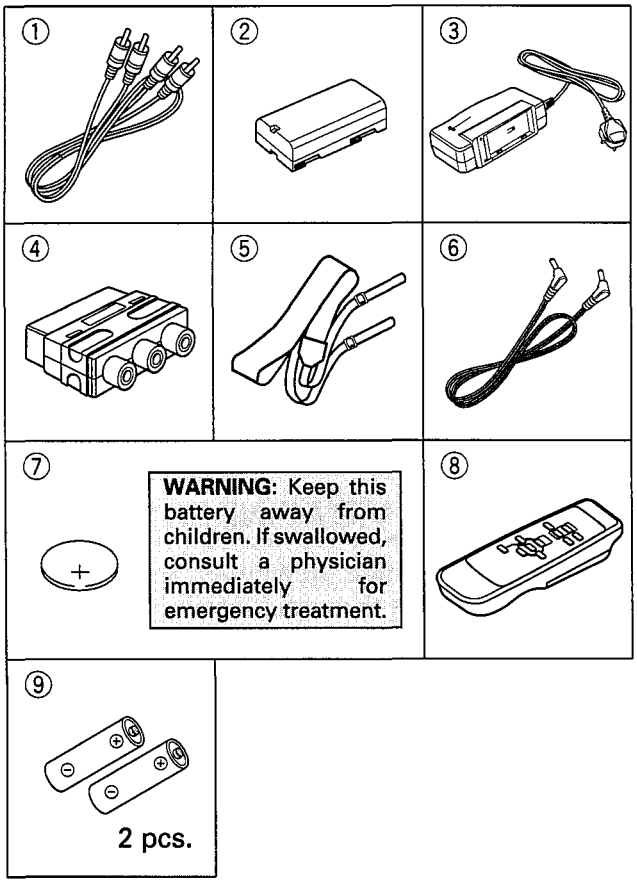
41. DISPLAY Button
Use this button to select the display in the viewfinder or LCD monitor.

42. COUNTER RESET Button (only on the remote control)
Press this button to reset the linear time counter in the viewfinder or LCD monitor to "0:00:00".

ACCESSORIES

Check to make sure you have the following components and accessories (besides the camera/recorder unit itself) before disposing of the packing material.

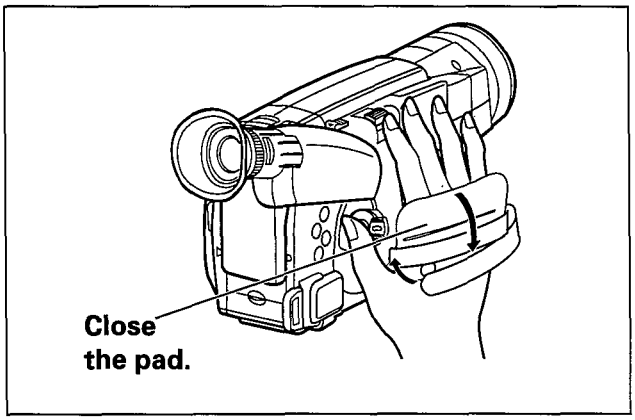
1. Audio/video Output Cable
2. Battery Pack
3. AC Adaptor/Charger
4. AV Plug Adaptor
5. Shoulder Strap
6. DC Cord
7. Battery for Date/Time (CR2025)
8. Remote Control
9. Batteries for Remote Control



ADJUSTING THE HAND STRAP

Adjust the length of the hand strap so you can press the Start/Stop button and power zoom control easily with your fingers.

NOTE: After adjustment, close the hand strap's pad securely.



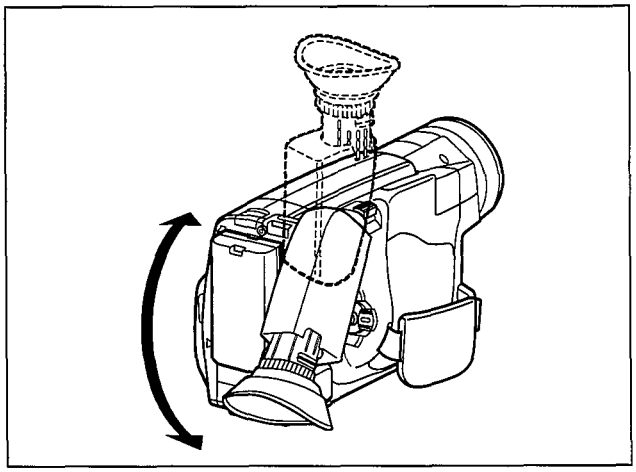
ELECTRONIC VIEWFINDER POSITION ADJUSTMENT

Adjust the electronic viewfinder to a position where you can see through it easily.

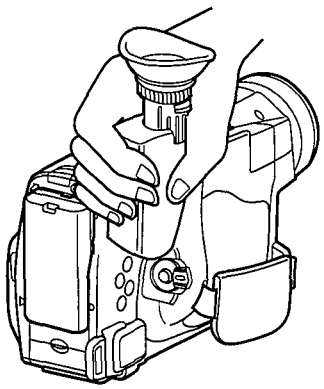
NOTES:

- Put the viewfinder back to original position when storing the camera/recorder into the carrying case or carrying the camera/recorder.

- Do not point the electronic viewfinder to direct sunlight; it could damage the viewfinder.



CAUTION:
Do not hold the unit by the electronic viewfinder when carrying as this could cause a malfunction.

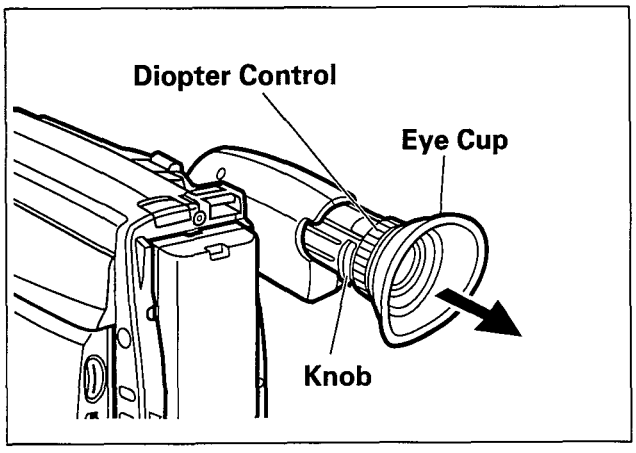


EYEPIECE ADJUSTMENT

To use the electronic viewfinder, grasp the knobs on both sides of the eye cup stem and pull the eye cup all the way out, then turn the diopter control for optimum focus adjustment.
Since the eye cup has already been pulled out at the factory, in present condition, only adjustment of the diopter control is necessary.

NOTES:

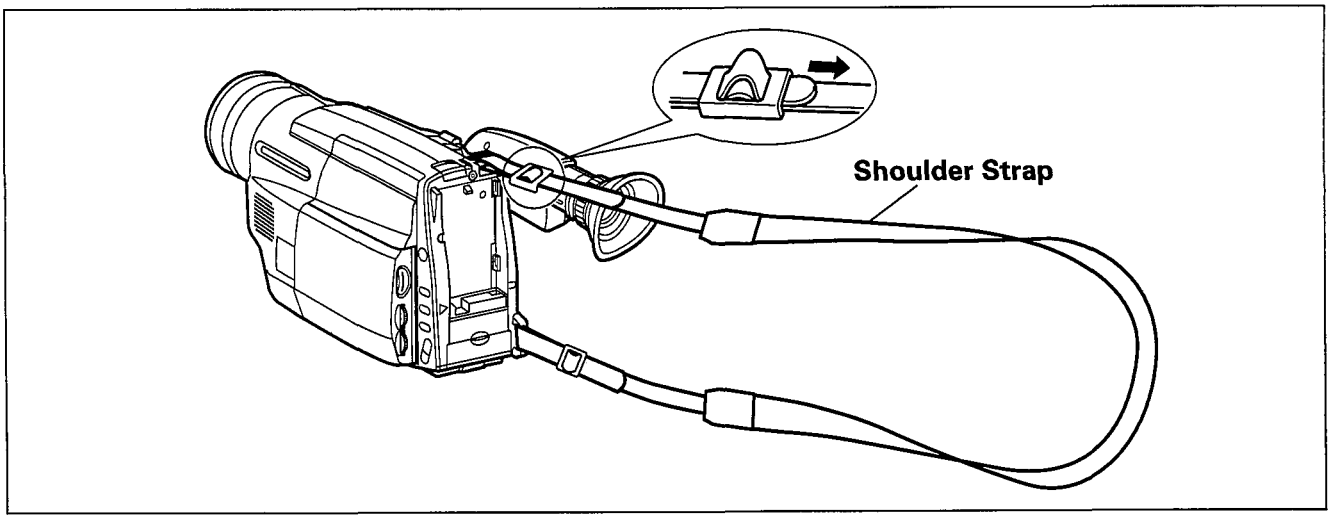
- The eye cup stem can be retracted when the camera/recorder is being carried.
- Be sure to pull out the eye cup all the way so that you can see the subject in the viewfinder clearly.



HOW TO INSTALL THE SHOULDER STRAP

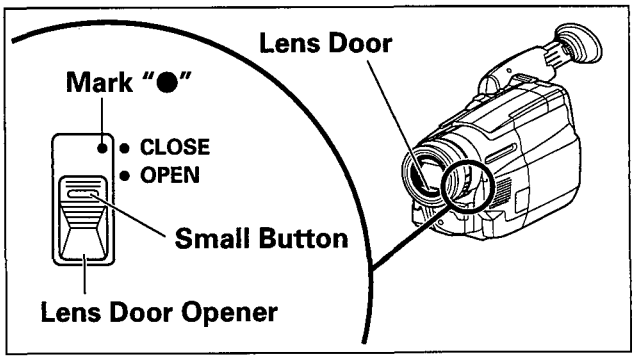
Attach the shoulder strap as illustrated below.

NOTE: When carrying the camera/recorder with the shoulder strap, put the electronic viewfinder down to its original position so that direct sunlight does not enter the viewfinder.



LENS DOOR OPENER

Slide the opener to open and close the lens door. Align the "●" mark with OPEN to open the lens door for recording. Align with CLOSE to close it. Hold down the small button in the opener as you slide it to CLOSE. However, you need not to hold it down to slide the opener to OPEN.



PROGRAMME AE (Auto Exposure)

Programme AE automatically selects the shutter speed 1/50, 1/100, 1/150, 1/250, 1/350, 1/500, 1/750, 1/1000, 1/1500, 1/2000 or 1/4000 second that is optimum for the brightness of the subject. The iris is also adjusted automatically in response to the shutter speed.

FLYING ERASE HEAD

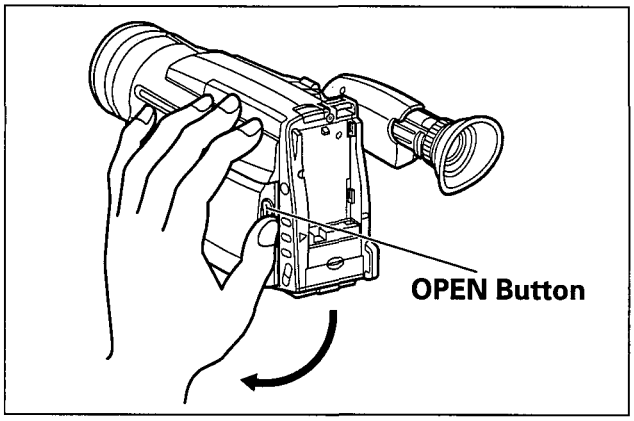
A rotating erase head which eliminates glitches and rainbow noise that occurs at the joints between recordings in previous models.

LCD MONITOR

When using the LCD monitor during recording and playback, you can adjust the brightness of its screen and the angle of the monitor.

■ Opening the LCD monitor

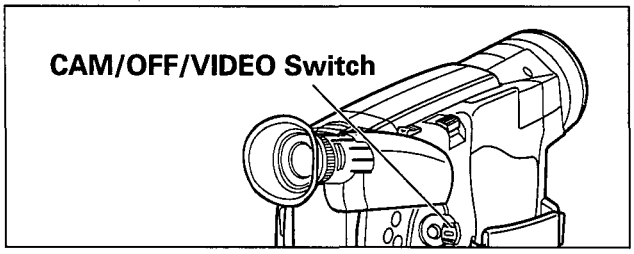
1. Press the OPEN button to open the LCD monitor.



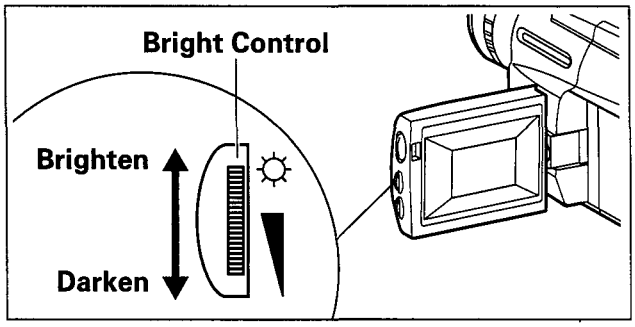
■ Adjusting the brightness of the LCD screen

NOTE: Even when the picture on the LCD monitor is adjusted, the recorded video will not change.

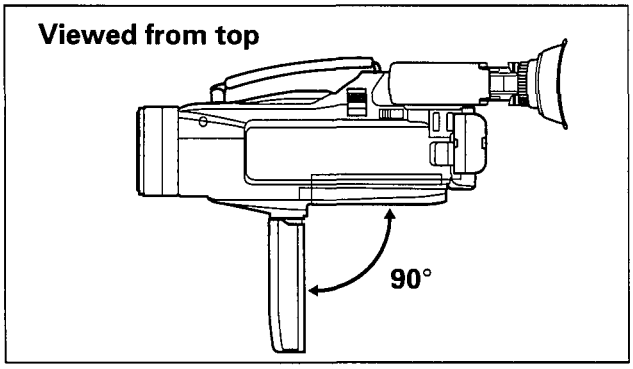
1. Load the battery (Refer to "POWER SOURCES" on page 11). Press the red button on the CAM/OFF/VIDEO switch as you slide it to CAM or VIDEO.

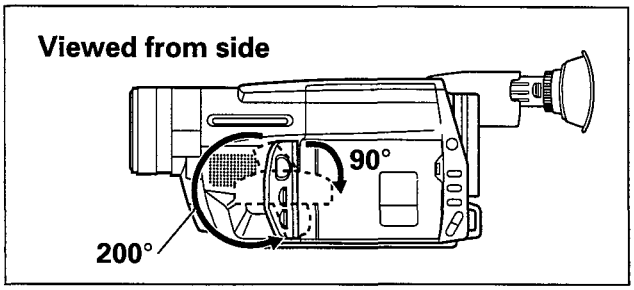


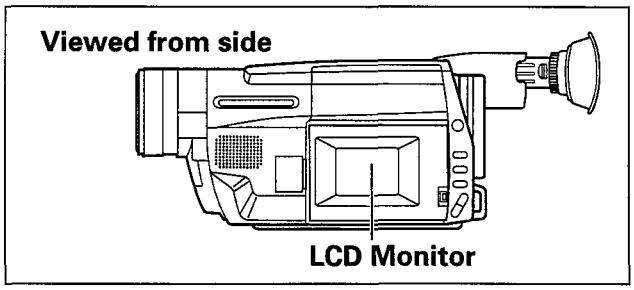
2. Use the bright control on the side of the LCD monitor to adjust the brightness of the LCD screen.



■ Range in which the LCD monitor can be moved







■ Cautions on LCD monitor screen

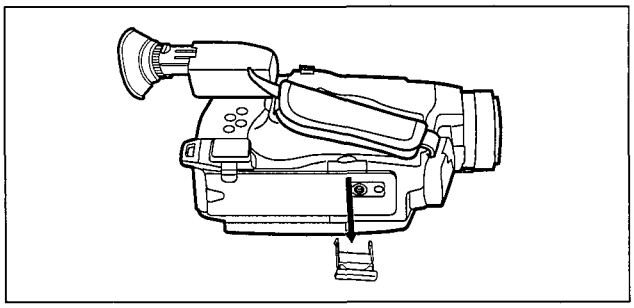
- Do not touch the LCD screen with your fingers as the screen could get dirty and the picture will not be seen clearly. If the LCD screen becomes dirty, use a soft cloth to wipe off the dirt.
- If the camera/recorder is used in a cold place and becomes too cold, the LCD screen will be dim for a while after the power is turned on. When the temperature inside the camera/recorder rises, the brightness of the picture will become normal.
- Do not hold by the LCD monitor as this could cause a malfunction.
- Open the LCD monitor by 90° before changing its direction. If you were to attempt to invert its direction before opening it completely, it could cause a malfunction.
- The LCD monitor cannot be closed if it is tilted.
- Close the LCD monitor after making sure it is parallel with the camera/recorder. If you were to close the monitor while it faces the same direction as the lens or it is diagonal, it could damage the LCD monitor.
- Do not disassemble the LCD monitor as this might cause a malfunction.
- When opening the LCD monitor, be careful that no water droplets adhere the monitor screen and that no water or dust enters the camcorder through the gap as it could cause a malfunction.

LOADING BATTERIES FOR CLOCK AND REMOTE CONTROL

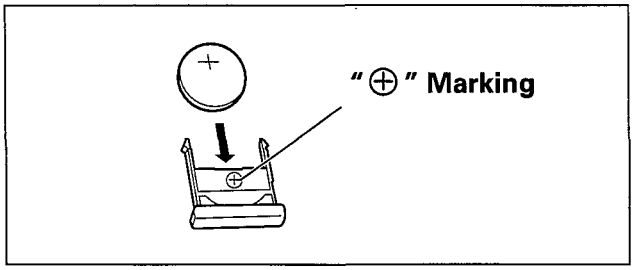
■ Clock battery

You may want to install the lithium battery (provided) immediately to prevent losing it.

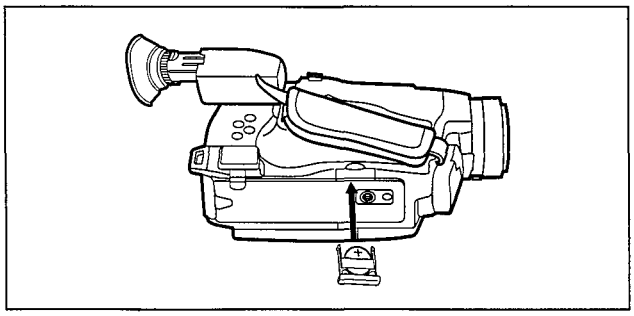
1. Pull out the battery holder.



2. Insert the battery with the "+" terminal facing up.



3. Fully insert the battery holder into the camera/recorder.



NOTES:

- When replacing the battery, use 3V micro lithium battery CR2025.
- Danger of explosion if battery is incorrectly replaced.

This product uses the lithium battery which contain dangerous chemicals. Handle and dispose of with great care.

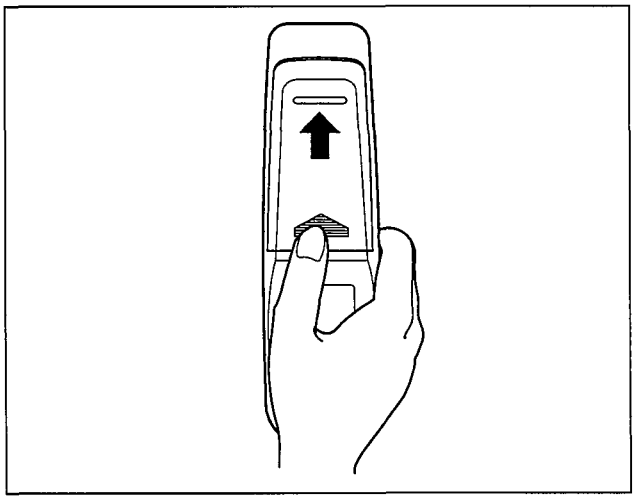
WARNING

- Keep the battery away from children and pets. If swallowed consult a physician immediately for emergency treatment.
- Keep the battery in a dark, cool, dry place.
- Do not throw the battery in a fire.
- Do not short circuit the battery.
- Do not disassemble the battery.
- Do not hold the battery with the metallic tweezers.
- Do not re-charge the battery.
- Wipe the battery with dry cloth and set properly confirming ends (+, –).
- For disposal, place in a plastic bag and put in waste bin.

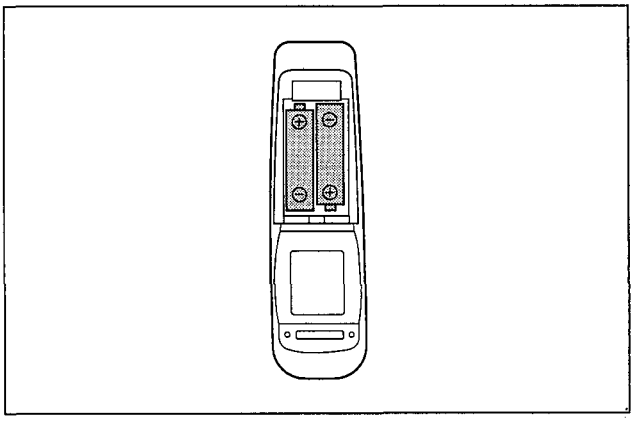
■ Remote control batteries

The remote control requires two "IEC R6" batteries.

1. Slide the cover in the direction of the arrow to remove it.



2. Install batteries.
   Be careful to install with correct polarity.



3. Re-attach the cover to the remote control.

CAUTIONS ON THE BATTERIES:

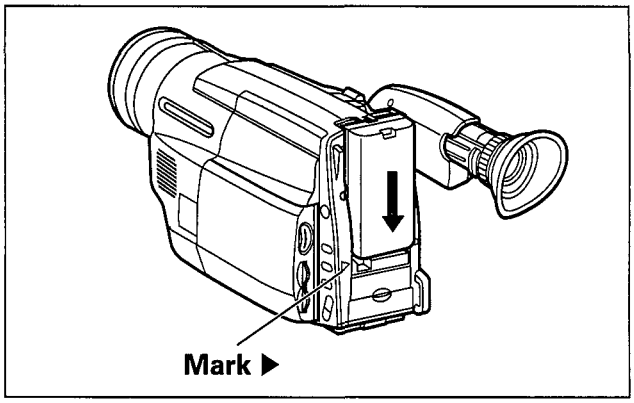
- Do not use the old and new batteries at the same time.
- Do not mix batteries of different types.
- Do not short, take apart or dispose of batteries by throwing them into a fire.
- When liquid leaks, wipe it off completely and then insert new batteries.

POWER SOURCES

NOTE: Be sure to turn off power of the camera/recorder when attaching or detaching a power supply (battery, AC adaptor/charger, etc.) to the camera/recorder.

■ WHEN USING WITH BATTERY (provided)

NOTE: The battery must be charged before it can be used for the first time. Refer to "CHARGING THE BATTERY" on page 13.



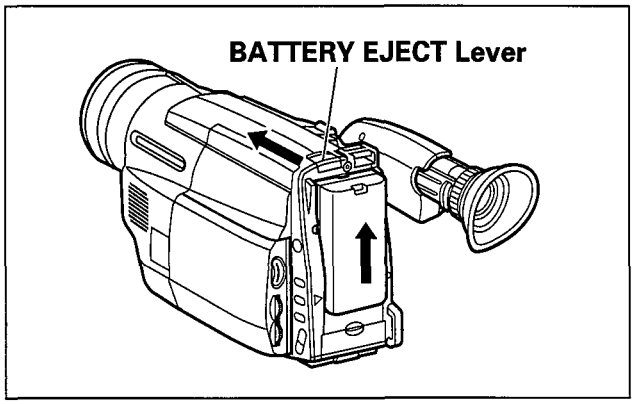
1. Align the bottom of the battery with mark ▶ on the camera/recorder so that the battery fits into the grooves.
2. Slide the battery downward, as illustrated.

NOTES:

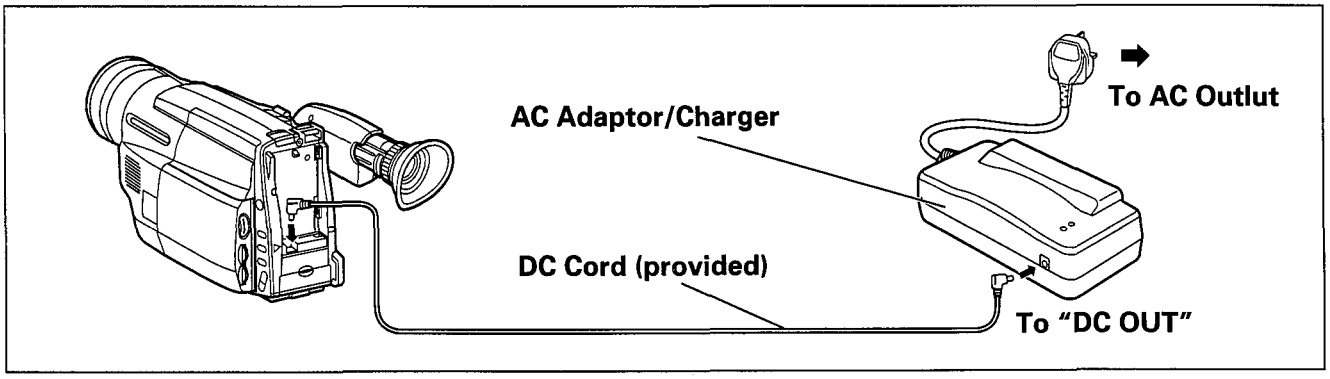
- Always remove the battery from the camera/recorder after use.
- We cannot guarantee against malfunctions of the camera/recorder which occur when you use battery packs other than those specified.
- Always attach a battery by the procedure described here. Attaching a battery forcibly could damage it.

■ Removing the battery pack

Slide the BATTERY EJECT lever in the direction of the arrow and hold it, then slide the battery to the upper side and remove.



■ WHEN USING WITH THE AC ADAPTOR/CHARGER (provided)



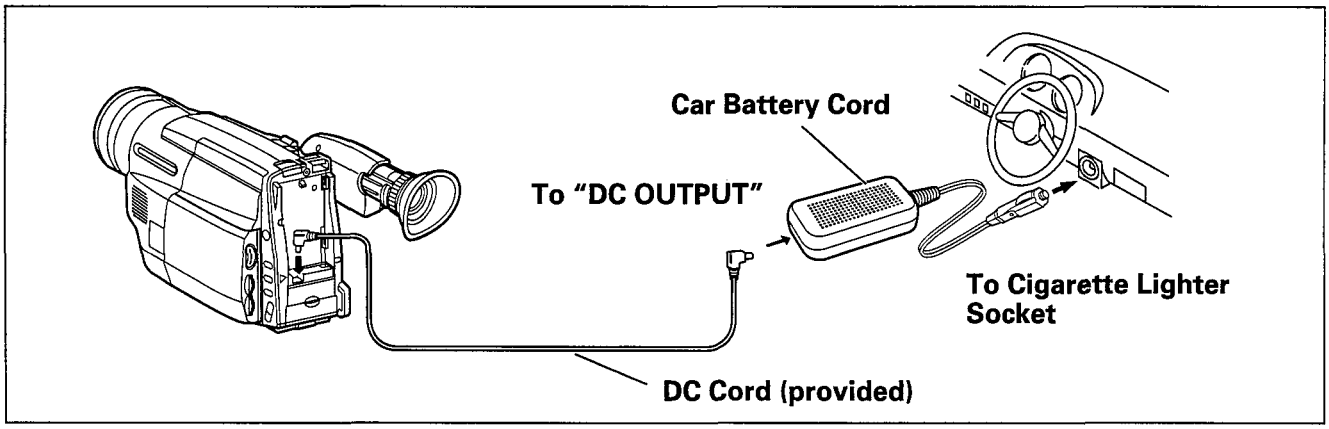
1. Connect one end of the DC cord (provided) to the camera/recorder as shown in the figure.
2. Connect the other end of the DC cord to the DC OUT jack of the AC adaptor/charger.
3. Plug the AC adaptor/charger power cord into an AC electrical outlet.
4. After the AC adaptor/charger has been used, unplug its power cord from the AC outlet.

See the bottom of the AC adaptor/charger. The rating label is located on the bottom of the AC adaptor/charger.

NOTES:

- This AC adaptor/charger is universal for use with AC 110 — 240V around the world. If you use the camera/recorder in some foreign countries, an AC plug adaptor (Not supplied) may be necessary.
- The AC adaptor/charger cannot charge the battery and operate the camera/recorder at the same time.
  Remove the battery from the AC adaptor/charger to supply power to the camera/recorder.

■ **WHEN USING WITH THE CAR BATTERY (By using optional car battery cord)**



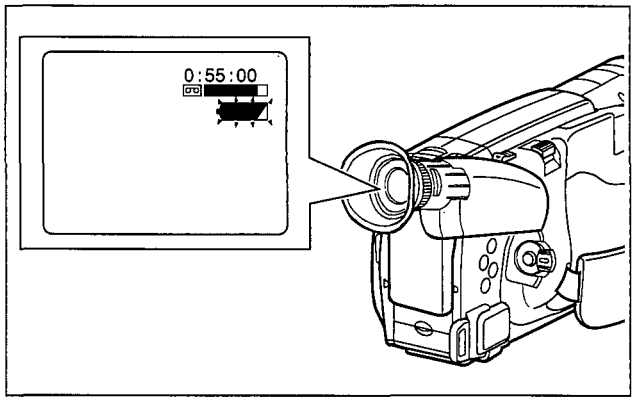
1. Connect one end of the DC cord (provided) to the camera/recorder, as illustrated.
2. Connect the other end of the DC cord to DC OUTPUT of the car battery cord.
3. Connect the car battery cord to the car's cigarette lighter socket.

NOTES:

- The car battery cord is designed to be used only with automobiles having a 12/24-volt negative ground system.
- To prevent fire or shock hazard or damage to your camera/recorder, please use only the specified car battery cord.

CHECKING THE BATTERY PACK

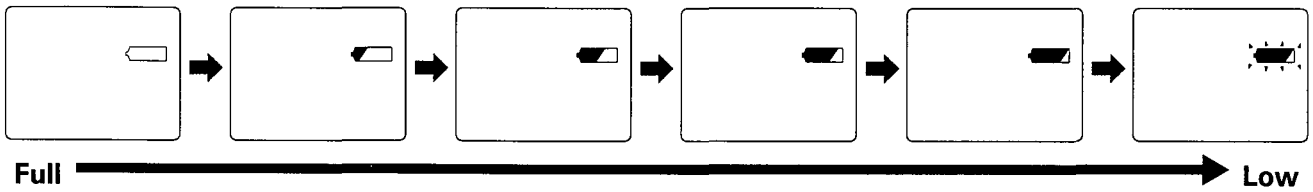
When the camera/recorder is turned on, the battery level indicator " ▭ " is displayed in the viewfinder or LCD monitor indicating the condition of camera/recording battery.



NOTES:

- When the " ▬ " indication appears in the viewfinder or LCD monitor and flashes while the camera/recorder is operated with a battery pack (provided), it indicates that the battery is insufficiently charged. Charge the battery pack or replace it with a charged battery pack.
- The battery charge indicator does not appear when the camcorder is powered by the AC adaptor/charger.

Battery's charge



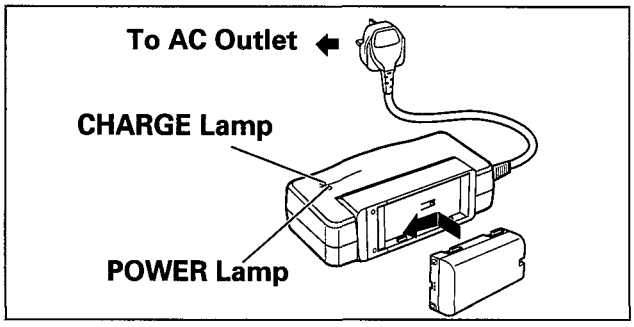
CHARGING THE BATTERY

The first step is to set the battery to charge. To charge the battery, use the provided AC adaptor/charger.

Charge the battery at a temperature range of 10°C – 30°C to prevent damage to the battery.

NOTE: This camera/recorder operates with the lithium ion battery such as VM-BPL13/VM-BPL27/VM-BPL30.

Charge the battery on a flat surface without vibration.



1. Plug the AC adaptor/charger power cord into an AC outlet. The POWER lamp (red) lights up.
2. Align the bottom of the battery with mark ▶ on the AC adaptor/charger, and then slide it in the direction of the arrow as shown in the figure.
   The CHARGE lamp (green) lights up.
3. The CHARGE lamp will repeatedly light for 3 seconds and then go off to show that the battery has been charged approximately 70% of full charge. When the CHARGE lamp goes out, the battery has been completely charged. After the lamp goes out, unplug the AC adaptor/charger from the AC outlet and remove the battery from the AC adaptor/charger.

NOTES:

- You can use the battery before it is completely charged.
- Remove the DC cord from the AC adaptor/charger before attempting to charge the battery.
- If you re-attach the fully charged battery to the AC adaptor/charger after the CHARGE lamp goes out, the lamp will light. This simply informs you that the battery has been completely charged; it does not indicate that the charge has been insufficient.

Charging time

Battery pack / Charging	VM-BPL13	VM-BPL27	VM-BPL30
Full charge	130 min.	230 min.	260 min.
70% charge	70 min.	140 min.	160 min.

Operating time

The camcorder operating time depends on how often you turn power on/off and use start/stop and zoom.

Recording / Battery pack	LCD monitor	VM-BPL13	VM-BPL27	VM-BPL30
Continuous recording	OFF	140 min.	300 min.	320 min.
	ON	110 min.	230 min.	240 min.
Typical recording	OFF	80 min.	170 min.	180 min.
	ON	60 min.	130 min.	140 min.

Notes on the battery

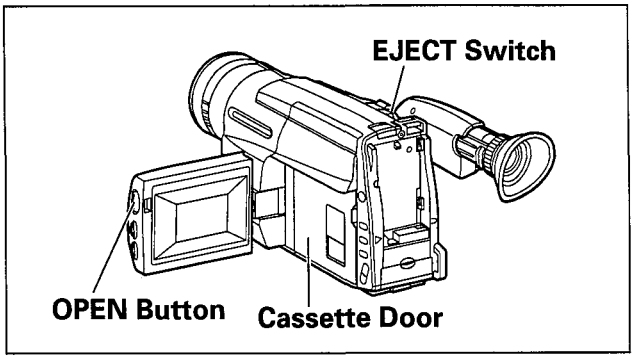
- It is recommended that the battery always be left in the discharged state when not in use, and charged before you use it.
- Avoid storing a fully charged battery, and do not store it in a place where the temperature is high: this will damage the battery.
- Do not operate the battery at temperature below –10°C or above 45°C. At extremely low temperatures operation time decreases, while at high temperature the battery may be damaged.
- If the POWER lamp begins to flash during charging, remove the battery and then reattach it to the AC adaptor/charger. If the POWER lamp continues to flash after several attempts to attach it, the battery is unable to take a charge and must be replaced.
- Do not attach a hot battery to the AC adaptor/charger. Allow it to cool.
- There are no user-serviceable parts inside the battery or AC adaptor/charger.
- Throwing the battery into fire or exposing it to excessive heat (above 60°C) may cause injury.
- Shorting the battery's terminal increases risk of fire or electrical shock.

INSERTION AND REMOVAL OF CASSETTES

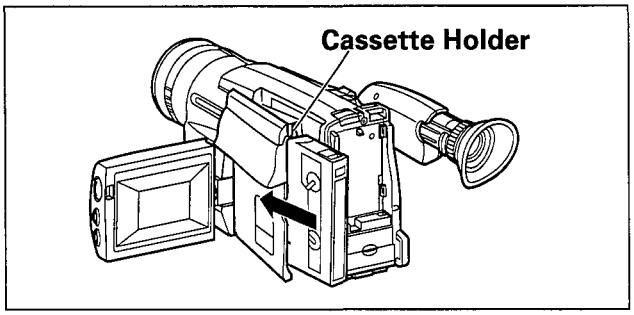
Before inserting or removing a cassette, be sure to connect the power source. When a power source is connected, the cassette can be ejected and removed whether the power is on or off.

■ **Insertion**

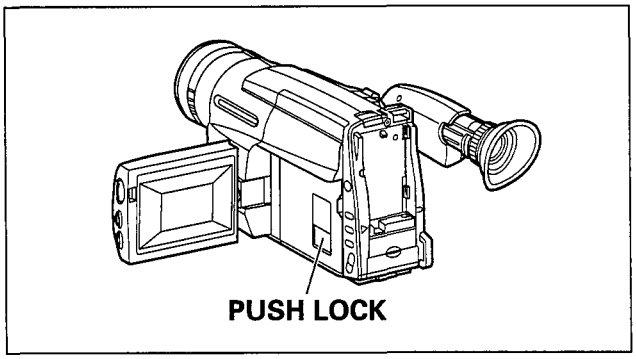
1. Press the OPEN button to open the LCD monitor ("LCD MONITOR", page 9).
2. Slide the EJECT switch.
   "⏏ EJECT" will appear on the LCD monitor, and the cassette door will open automatically.
   CAUTION: Be careful not to catch your fingers between the cassette door and the camera/recorder as it could cut you.
   NOTE: Cassette cannot be inserted or ejected unless the LCD monitor is open.



3. Insert a cassette so the transparent window is toward you and the arrow toward the cassette holder. Slide the cassette into cassette holder as far as it will go.



4. Press the cassette door.
   Press the section of the door marked "PUSH LOCK" until a click is heard.
   Be sure that you push the cassette door marked "PUSH LOCK" to close the door. Otherwise, the door will not close and the tape may become slack which could lead to damage.



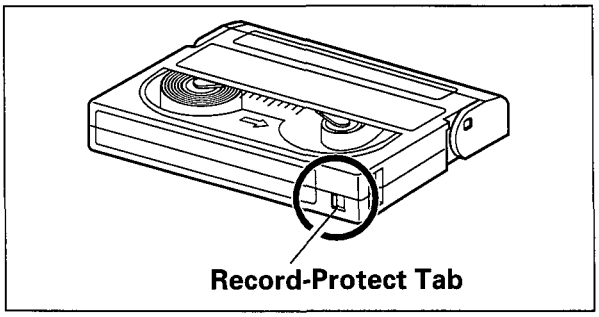
NOTE: If "TAPE" flashes in the viewfinder or LCD monitor, remove the cassette and check that the tape is not damaged, is not slack or no dust adheres to it, etc. After making sure that there is no abnormality, reinsert the cassette. If "TAPE" reappears, see "TROUBLESHOOTING" on page 41.

■ **Removal**

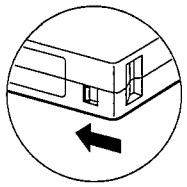
Slide the EJECT switch. "⏏ EJECT" will appear on the LCD monitor, and the cassette door will open automatically. Remove the cassette.

8 mm Video Cassette

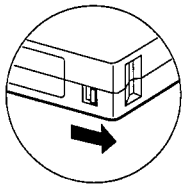
An 8 mm Video Cassette has a record-protect tab on the side of the cassette that can be slid to prevent accidental erasure of recorded material.



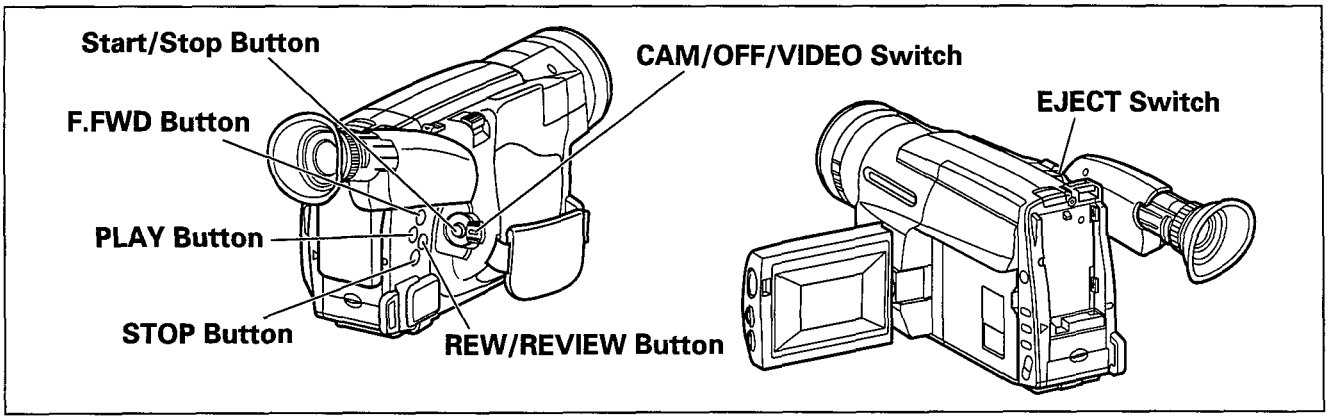
To prevent accidental erasure, slide the record-protect tab in the direction of the arrow until the tab is completely visible.



To record on the cassette again, slide the record-protect tab in the direction of the arrow. The tab will disappear behind the cassette case.



NOTE: After unpacking, it is recommended to fast forward tape to its middle and then rewind it before recording with the camera for the first time.



1. Connect either one of the "POWER SOURCES" on pages 11 through 12.
2. Open the LCD monitor and insert a cassette ("INSERTION AND REMOVAL OF CASSETTES", page 14).
   If you want to view the picture being recorded on the LCD monitor, leave the monitor open. If you want to view the picture in the viewfinder, close the LCD monitor.
   NOTES:
   - Pull out the eye cup all the way when using the viewfinder.
   - If the power source is not connected to camera/recorder, the cassette holder will not open.
   - If the LCD monitor is opened or closed during recording, several white stripes may appear in the picture, but this does not indicate a fault. However, these stripes are recorded with the picture, so it is recommended that you do not close or open the LCD monitor during recording.
   - If the LCD monitor is opened or closed (the monitor picture is switched between the viewfinder and LCD monitor) during recording, the on-screen display will disappear for about one second. It is recommended that you do not switch the picture during recording as the date or title superimposed in the picture being recorded will disappear for about one second.
3. Press the cassette holder. The holder will latch in the operating position.
4. To open the lens door, slide the lens door opener to "OPEN" ("LENS DOOR OPENER", page 8).
5. Slide the CAM/OFF/VIDEO switch to "CAM". "●II" appears and the camera/recorder will enter record/pause mode automatically.
   NOTE: If the record-protect tab on the cassette is closed, the "TAPE" indication in the viewfinder or LCD monitor flashes for several seconds and the camera/recorder will not enter record/pause mode.
6. Adjust the diopter control so the display in the viewfinder can be seen most clearly.
7. Now, press the Start/Stop button to start shooting the picture. You are now recording the picture you see through the viewfinder or LCD monitor. The "REC" indication appears in the viewfinder or LCD monitor instead of "●II".
8. Press the Start/Stop button to stop recording. Press the button again to resume recording. The "●II" indication appears in the viewfinder or LCD monitor instead of "REC" in the record/pause (stand-by) mode.
9. After recording, slide the CAM/OFF/VIDEO switch to "OFF".
10. Close the lens door. Press and hold the small button in the lens door opener, and then slide it to "CLOSE".
11. Always remove the power source from the camera/recorder after use.

NOTES:

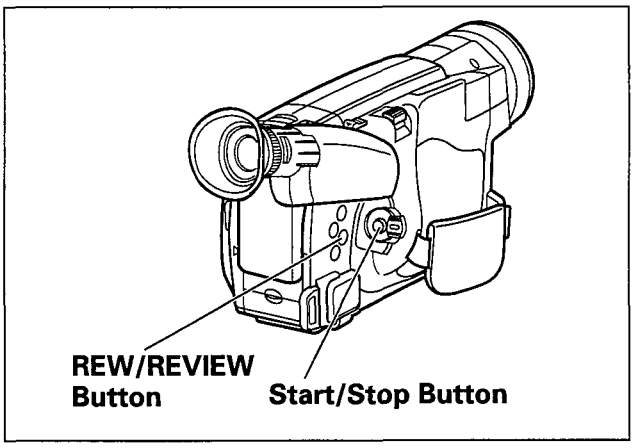
- The "TAPE END" indication in the viewfinder or LCD monitor starts flashing when there is about three minutes recording time left on the cassette.
- If you have a cassette tape that has already been partially recorded on and you want to record the remaining blank section, see "QUICK EDIT" on page 28.

- If the record/pause mode continues for more than 5 minutes, the camera/recorder's power is automatically turned off. To turn on again, press Start/Stop button. The camera/recorder enters record/pause (stand-by) mode.

INSTANT REVIEW

1. In record/pause (stand by) mode, tap REW/REVIEW button, and the recorded scene of the last few seconds is played back in the reverse direction and then played back in the forward direction.

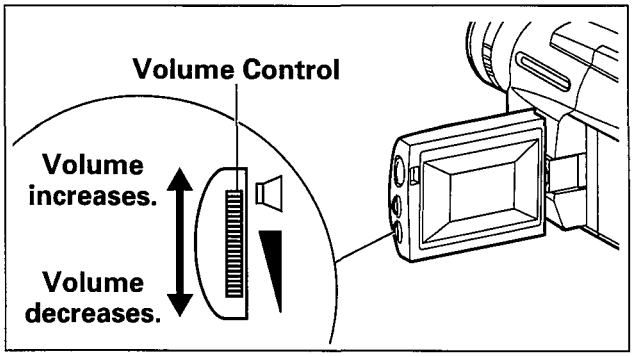
   NOTE: Sound is heard from the speaker during normal playback.
2. When the tape reaches the end of the scene you have just recorded, the camera/recorder returns to the record/pause (stand by) mode. Recording starts again when the Start/Stop button is pressed again.



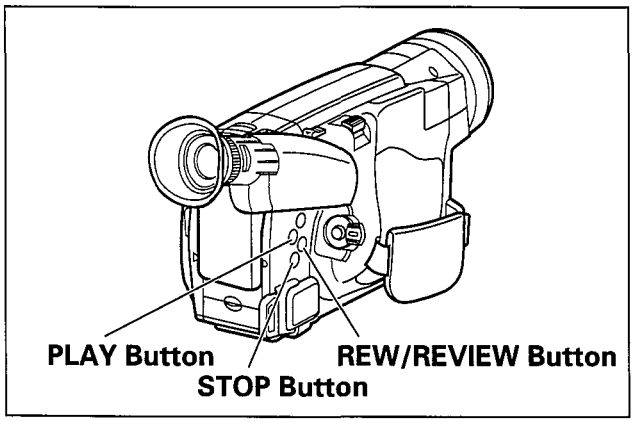
PLAYBACK

You can view recorded pictures on the 2.5-inch LCD monitor immediately after recording.

1. Hold down the red button on the CAM/OFF/VIDEO switch while sliding the switch to VIDEO.
2. Press the REW/REVIEW button to the position where you want to start playback.
3. Press the PLAY button and play back the tape. To adjust the volume for the internal speaker, adjust the volume control.



4. Press the STOP button when you have finished.



NOTES:

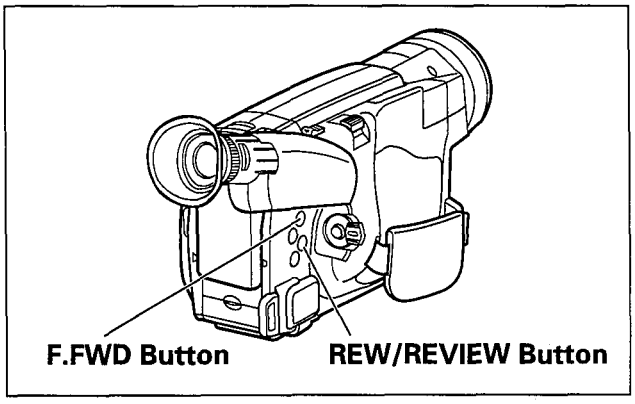
- Decrease the sound volume of the camera/recorder when you play back a recording by connecting the camera/recorder to your TV. If the volume of the camera/recorder is set to maximum, the played back picture may be distorted.
- When the LCD monitor is turned on and left as it is, the monitor becomes warm, but this does not indicate a fault.
- When the CAM/OFF/VIDEO switch is set to "CAM" or "VIDEO", the LCD monitor is turned on and off automatically when the LCD monitor is opened and closed.
- It is recommended that you close the LCD monitor to save the battery power when playing back a picture on a TV or recording a TV program without viewing it.
- Only the playback sound is heard from the internal speaker. The sound being recorded is not heard.

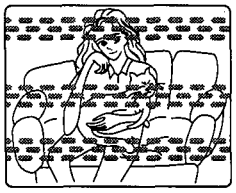
F-SEARCH AND R-SEARCH

When looking for a particular point in your videotape use the F.FWD button and REW/REVIEW button to find the spot quickly.

- Press the F.FWD button during playback to play the tape forward at approximately 7 times normal speed. Press the PLAY button to return to normal playback.
- Press the REW/REVIEW button during playback to play the tape backwards at approximately 5 times normal speed. Press the PLAY button to return to normal playback.

NOTE: When you engage the F.FWD button or REW/REVIEW button the picture will have some interference or noise in the viewfinder or LCD monitor. This is normal during search mode.



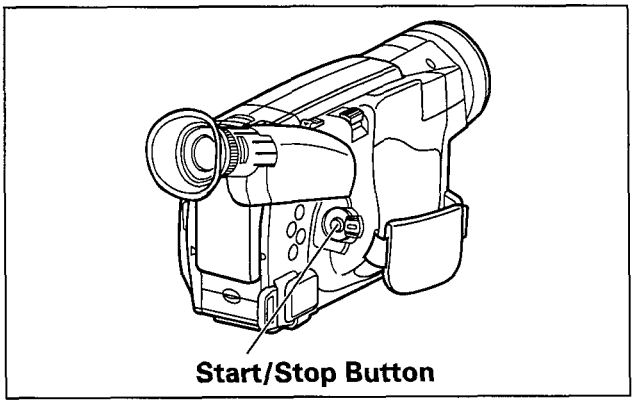


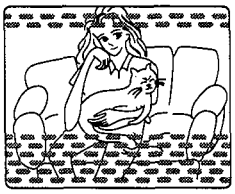
STILL

When the Start/Stop button is pressed during playback, a still picture can be seen. To start again press the Start/Stop button and playback will be resumed.

NOTES:

- If the play pause mode continues for more than 5 minutes, the camera/recorder will automatically enter the stop mode to protect the tape from damage.
- The still picture will have several noise bars in the viewfinder or on the LCD monitor and on the TV, but this does not indicate a fault.





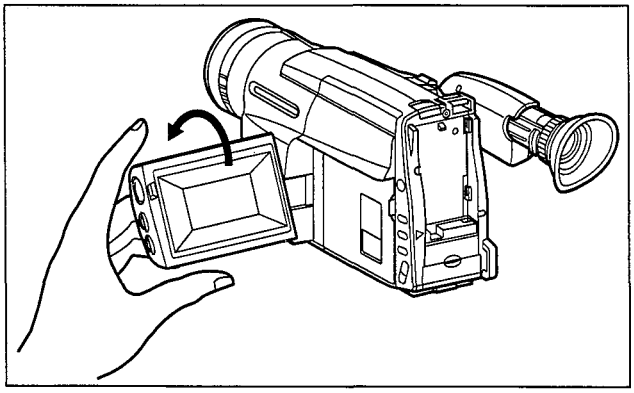
CHANGING THE ANGLE OF THE LCD MONITOR WHEN RECORDING

You can change the angle of the LCD monitor so that the picture on the LCD screen can be monitored from different positions.
See "LCD MONITOR" (page 9) for the range in which you can change the angle of the LCD monitor.

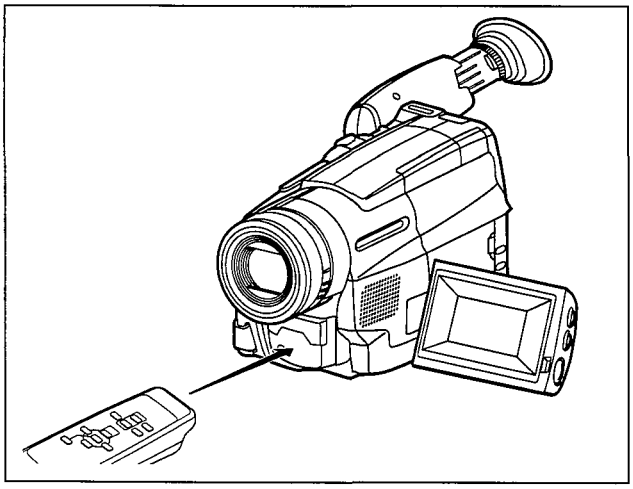
NOTE: You need the remote control to operate the camera/recorder.

Recording an image of yourself while monitoring the LCD screen

1. Open the LCD monitor ("LCD MONITOR", page 9).
2. Turn the LCD monitor so the monitor screen faces the same direction as the lens.



Press the START/STOP button on the remote control, and the camcorder will begin recording.



NOTES:

- Tilt the LCD monitor in the direction of the camera lens so that its screen faces up slightly, and the screen may be viewed easily.
- When you record an image of yourself, the image displayed on the LCD monitor will be the reverse of a mirror image.

ACTIVE SCREEN

The camera/recorder automatically brightens the backlight of the LCD monitor when you are recording a bright subject outdoors, so that the LCD screen is easy to see.

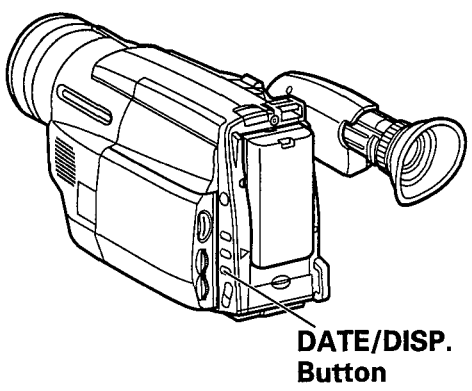
NOTES:

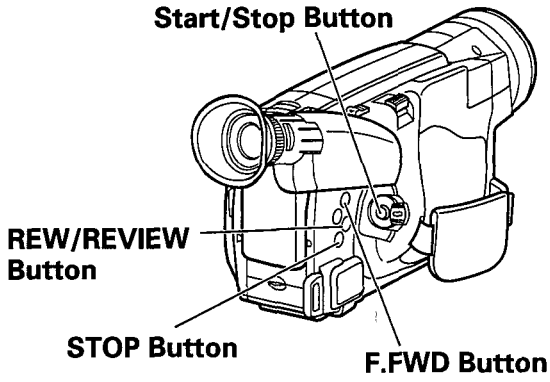
- When you record a bright subject outdoors, the camera/recorder operating time will be less than when recording indoors.
- Even if you record outdoors, the LCD monitor backlight may not brighten, if you are aiming at a dark subject.

DATE/TIME SETTING

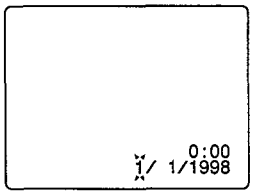
The date and time can be recorded on your tapes to act as a handy reference when viewing them at a later time. Use the following procedure to set up this display for the current date and time.
Make sure that the current time is displayed correctly before you start recording.

NOTE: Be sure to insert the clock battery before setting the date and time. Although the date and time can be set without the clock battery inserted, they will disappear when the battery providing power to the camera/recorder is removed.

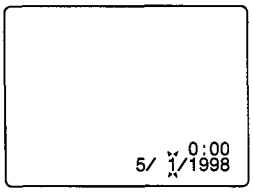




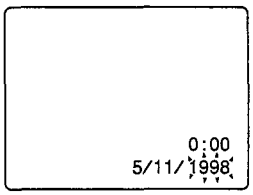
1. Slide the CAM/OFF/VIDEO switch to "CAM".
2. Press the DATE/DISP. button.
   "0:00" and "1/1/1998" appears in the viewfinder or LCD monitor and "1" flashes.



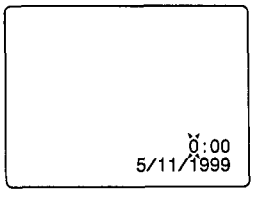
3. Press the F.FWD button to select correct date. Hold button down to advance rapidly. If you go past the date you want to set, press the REW/REVIEW button. When the correct date appears, press the STOP button.



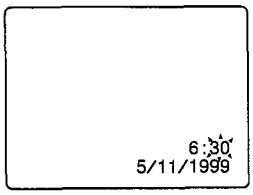
4. Press the F.FWD button to select correct month. Hold button down to advance rapidly. If you go past the month you want to set, press the REW/REVIEW button. When the correct month appears, press the STOP button.



5. Press the F.FWD or REW/REVIEW button to select year, and then press the STOP button.



6. Press the F.FWD or REW/REVIEW button to select correct hour, and then press the STOP button.
7. Press the F.FWD or REW/REVIEW button to select correct minute.



8. After setting to the correct minute, press the DATE/DISP. button to change the display and start the internal clock.
   It is recommended that you press the DATE/DISP. button to match the time signal.

NOTE: After the date and time are set, "◷ AUTO" appears and the camera/recorder enters the automatic date recording mode. See "DATE RECORDING" on page 20.

■ To correct date/time after starting the date/time

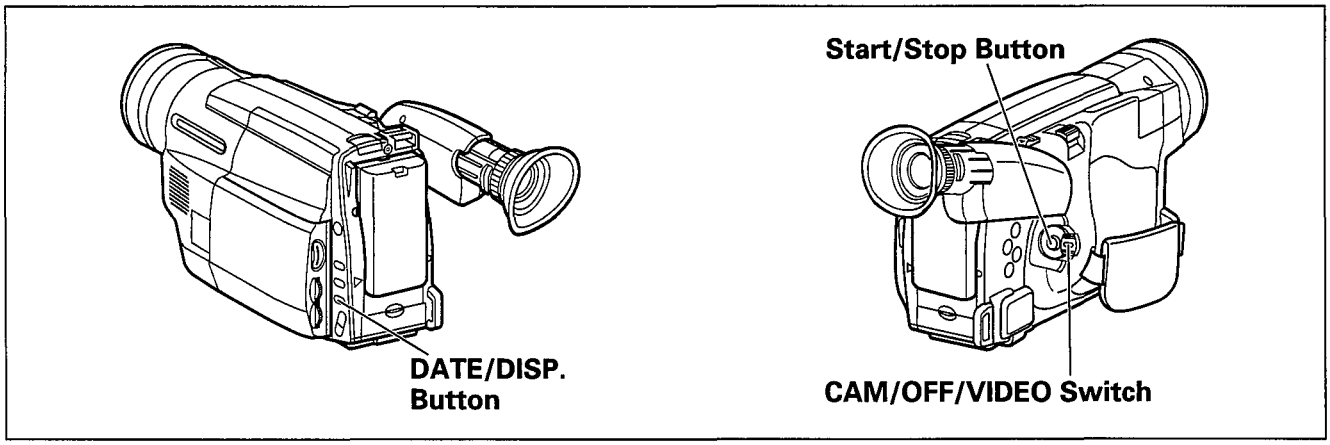
1. Press and hold the DATE/DISP. button, and then press STOP button. The date starts flashing.
2. Correct the incorrect digit by using the F.FWD, REW/REVIEW and STOP buttons.

■ To correct date/time during programming

1. Press the STOP button repeatedly until the digit that is incorrect flashes.
2. Correct the incorrect digit by using the F.FWD, REW/REVIEW and STOP buttons.

DATE RECORDING

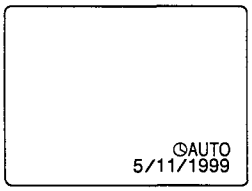
When the date has been set, the camera/recorder will enter the automatic date recording mode automatically.



1. Press the red button on the CAM/OFF/VIDEO switch as you slide it to "CAM".
2. Press the DATE/DISP. button to specify the date display you want to record.

"◷ AUTO" and date – Automatic date recording

This option records the date automatically once a day at the beginning of recording for 10 seconds.

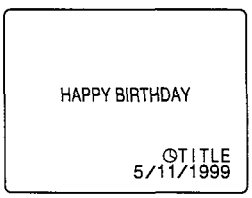


NOTES:

- The camera/recorder records the same date when:
  - the cassette is replaced.
  - you select "◷ AUTO" and date display again.
  - the recording is less than 10 seconds long.
- If the date changes while recording continues over 10 seconds, the new date is recorded for about 10 seconds the next time you make a recording.

"◷ TITLE" and date – Automatic title and date recording

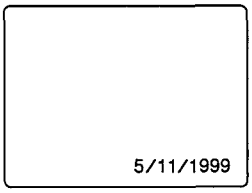
This option records the date and created title (see "TITLE RECORDING" on page 32) automatically once a day at the beginning of recording for 10 seconds.



NOTE: When "◷TITLE" is displayed in the viewfinder or LCD monitor, the title cannot be turned on or off using the remote control.

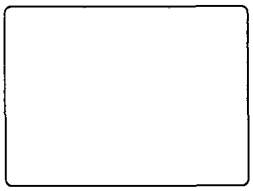
Date – Date recording

The camera/recorder records the date with the picture all the time.



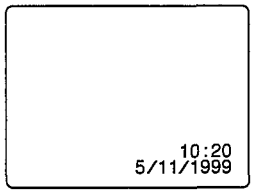
No display – No date recording

The camera/recorder does not record the date.



Date and time – Date and time recording

The camera/recorder records the date and time with the picture all the time.



3. Press the start/stop button.
   Recording will start.

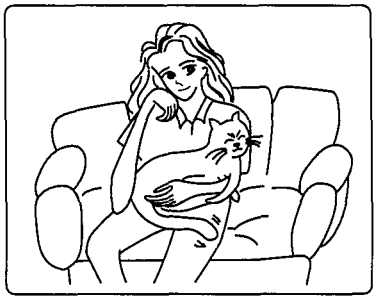
NOTES:

- When "◷ AUTO" and date display selected, the date disappears about 10 seconds after recoding is started.
- When "◷ TITLE" and date is selected, the title and date disappear about 10 seconds after recording is started.

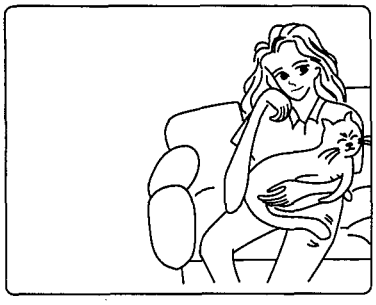
AUTO FOCUS

- You can always focus the object automatically if "FOCUS" is not displayed in the viewfinder or LCD monitor.

- **The object at the centre of the viewfinder or LCD monitor is in focus.**



Good

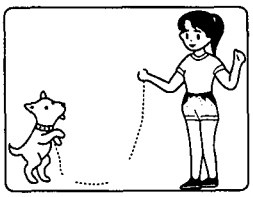


No good

The range of object with which auto focus can be used

- On "T" side : about 1m from the lens surface to infinity.
- On "W" side : about 1 cm from the lens surface to infinity.

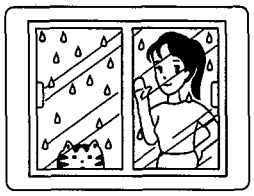
■ **You cannot focus automatically with the following objects. Focus manually.**



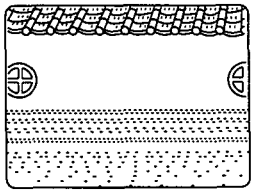
1. Objects not in the centre of the viewfinder or LCD monitor.

2. Objects at far and near positions at the same time.

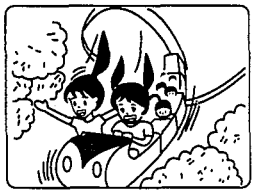
3. Objects lit by a spotlight or neon signs, etc.



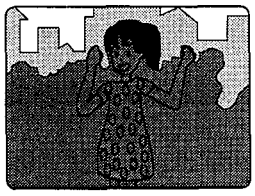
4. Objects behind glass with water droplets or dust on it.



5. Objects with almost no difference in brightness such as a white wall.



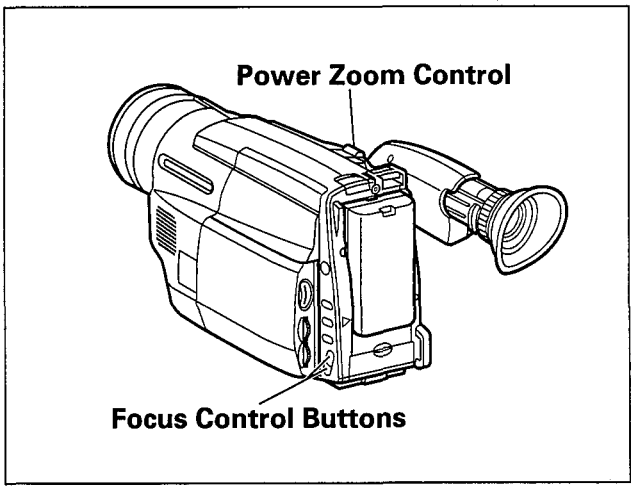
6. Objects moving rapidly.



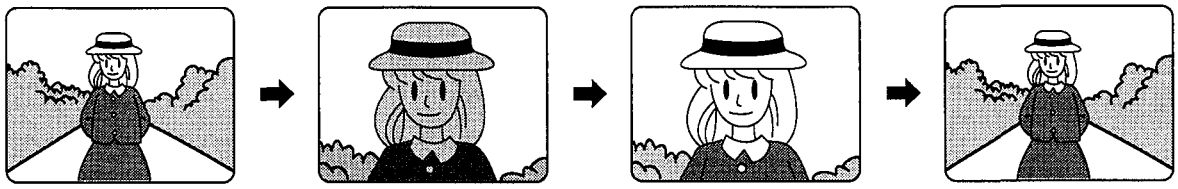
7. Dark objects

■ MANUAL FOCUSING

1. Press the FOCUS control buttons simultaneously to display "FOCUS" in the viewfinder or LCD monitor.
   - When "FOCUS" is displayed in the viewfinder or LCD monitor, you can adjust the focus manually.
   - When the FOCUS control buttons are pressed again, "FOCUS" disappears from the viewfinder or LCD monitor and the camera returns to the auto focus mode.
2. Zoom in on the object by sliding the power zoom control to the "T" side.
3. Press the FOCUS control ▲ (far) or ▼ (near) buttons to bring the subject into focus.
   NOTE: If focusing is performed without zooming up first, the picture may become out of focus when the zoom-up is done during actual picture taking.
4. Then, zoom back the object as desired.

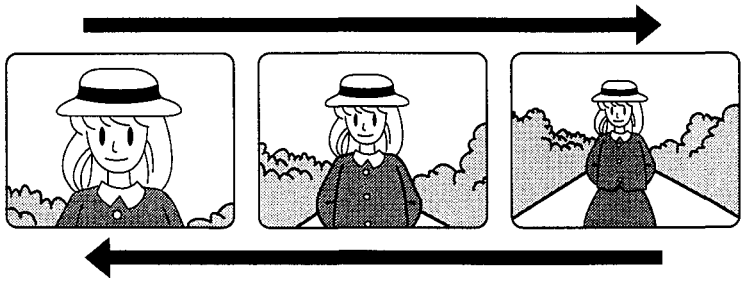


NOTE: After using the manual focus, press the FOCUS control buttons simultaneously to switch off "FOCUS" in the viewfinder or LCD monitor.



POWER ZOOM

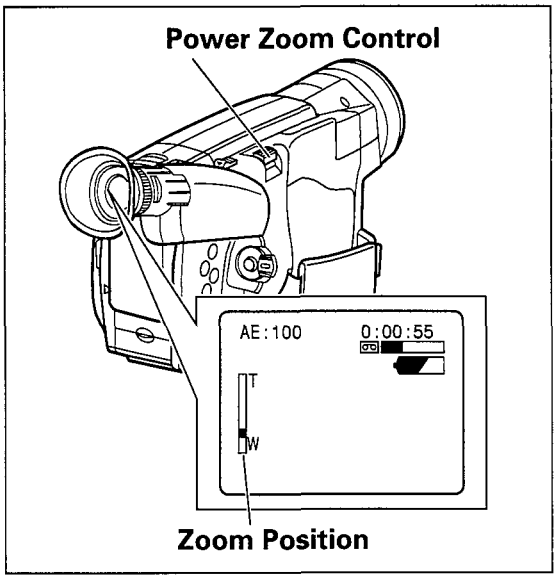
- Slide power zoom control to the "W" side, and the picture gradually widens.



- Slide power zoom control to the "T" side, and the picture gradually becomes telescopic.

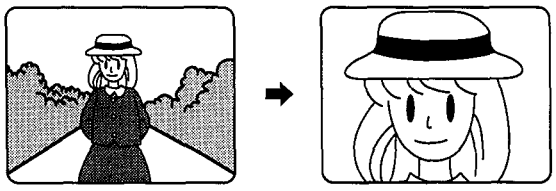
NOTES:

- If "ZOOM" appears in the viewfinder or LCD monitor, the digital zoom function is engaged.
- When the power zoom switch is operated, the zoom position is displayed in the viewfinder or LCD monitor for about 5 seconds and then disappears. The zoom position is displayed in 10 steps.



DIGITAL ZOOM

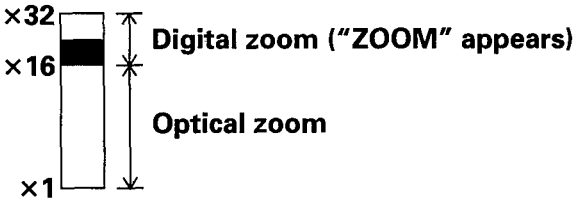
This feature allows you to increase the magnification of the image at the centre of the screen up to 2 times greater than the extreme telephoto position.



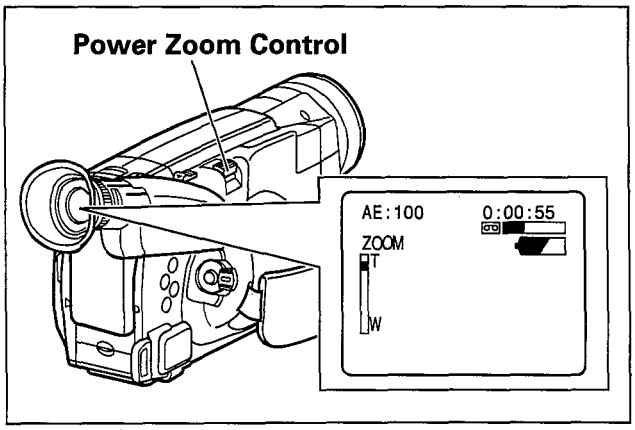
Slide the power zoom control to the "T" side and hold it ; "ZOOM" appears in the viewfinder or LCD monitor and the digital zoom function is engaged.

NOTE: The digital zoom functions from the extremely telephoto position of ×16.

- **Zoom area**



You can control the digital enlargement ratio by sliding the power zoom control to the "T" or "W" side. When "ZOOM" is not displayed in the viewfinder or LCD monitor, the normal zooming function is restored.



BEFORE YOU START TAKING PICTURES WITH YOUR DIGITAL ZOOM CAMERA/RECORDER

Digital zoom lets you really get close to the action. Due to the unique nature of this feature here are some important points to consider before you start:

As with all digital zoom camera/recorders picture clarity diminishes at high zoom ratios.

When you zoom in on your subject, at some point camera shake will become noticeable. As the zoom ratio becomes high, it is better to use a tripod.

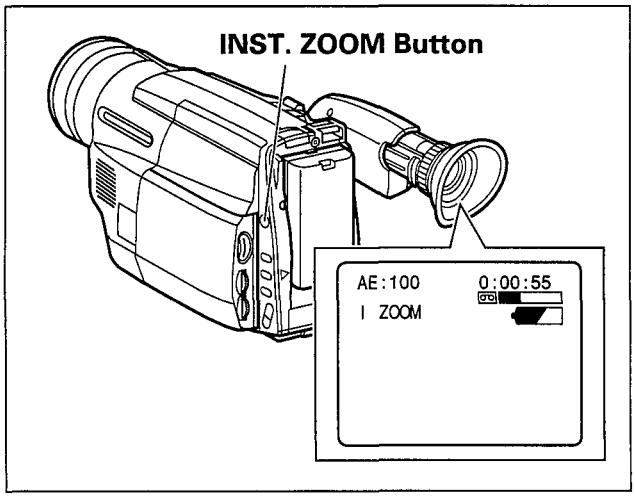
Since no two people will use their camera/recorders in exactly the same way, you should test the digital zoom feature by making a brief test tape at various zoom settings. So get comfortable with your new camera/recorder then go out and get close to the action.

INSTANT ZOOM

The instant zoom feature activates the digital zoom to magnify the subject being recorded 1.5 times momentarily regardless of the zooming engaged by the power zoom switch.

Press the INST. ZOOM button. "I.ZOOM" appears in the viewfinder or LCD monitor and the subject is magnified 1.5 times. The instant zoom function only operates when "I.ZOOM" is displayed. To release instant zoom, press the INST. ZOOM button again so that "I.ZOOM" disappears from the viewfinder or LCD monitor.

NOTE: When the instant zoom is used, the more the image is magnified, the rougher the picture becomes. Also even a slight shaking of the camera/recorder is conspicuous.

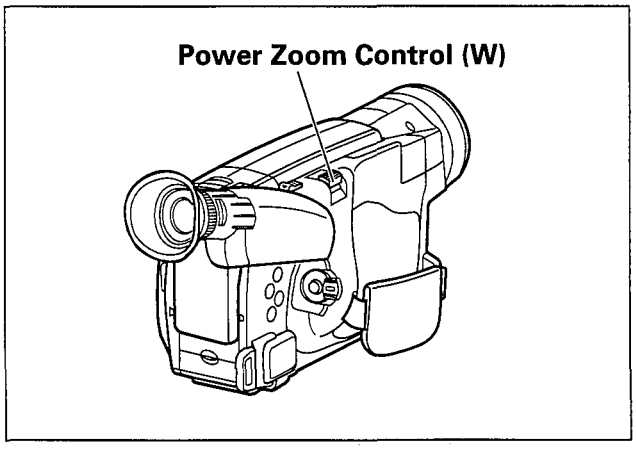


MACRO

It permits you to shoot objects as close as 1 cm from the lens tip.
Slide and hold the power zoom control to the "W" side. An object is auto focused.

NOTES:

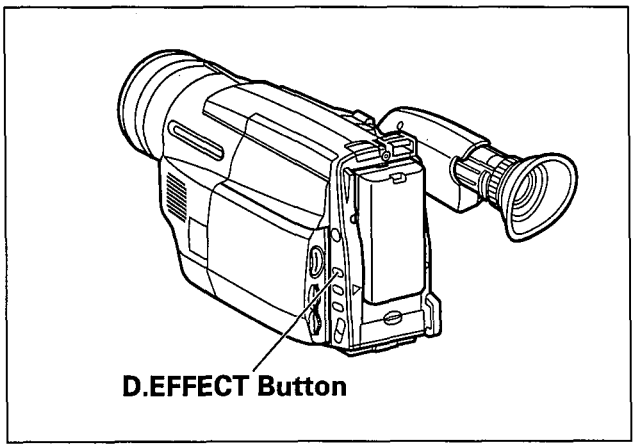
- Determine the size of the object by moving the camera backward and forward.
- Be careful as the lighting tends to be low when shooting in the above conditions.
- A subject 1m from the lens surface to infinity can be focused on the telephoto side.



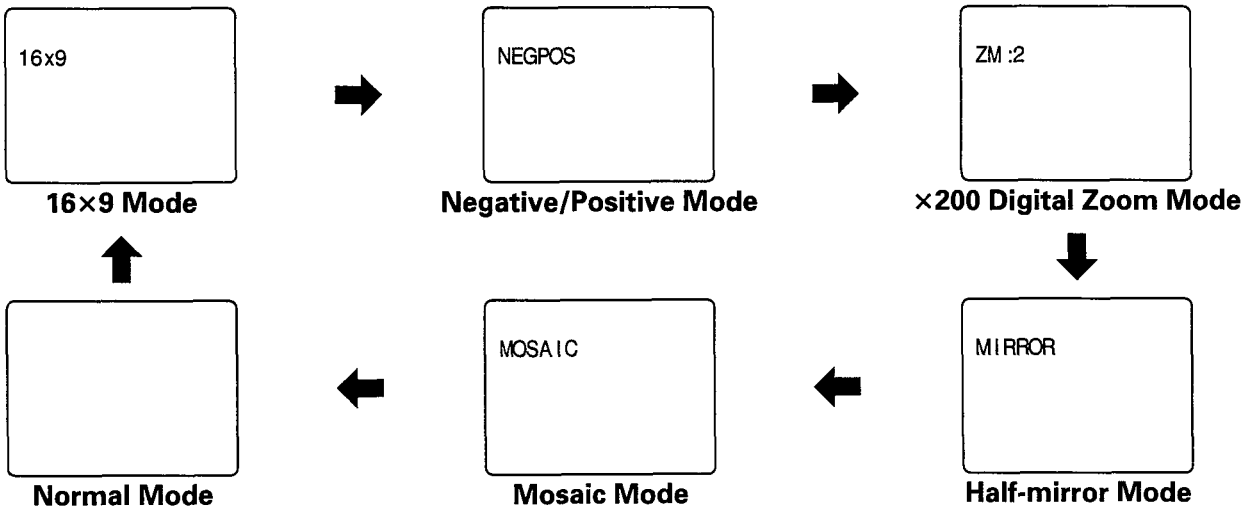
DIGITAL EFFECTS RECORDING

The digital processor in this camera/recorder allows you to record picture and add special effects; 16×9 recording mode, a negative image (negative/positive recording), 200 times digital zoom feature (with instant zoom), a symmetric image, obtained by placing a mirror at the centre of the screen (half-mirror recording), and an image in mosaic (mosaic recording).

NOTE: The half-mirror recording and mosaic recording functions cannot be used with digital zoom, instant zoom or zoom fade function.



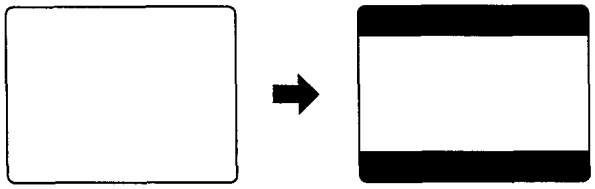
- Each time the D.EFFECT button is pressed, the recording mode is switched.



■ 16×9 mode recording

The picture format can be switched from 4:3 (the picture format of an ordinary TV set) to 16×9.

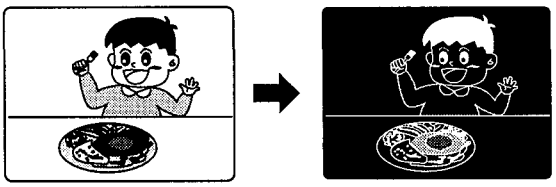
1. Place the camera/recorder in record pause.
2. Press the D.EFFECT button until "16×9" appears in the viewfinder or LCD monitor. The top and bottom of the picture in the viewfinder or LCD monitor become black bars.



3. Press the start/stop button to start recording.
   - To release the 16×9 mode, press the D.EFFECT button repeatedly in recording pause until normal mode is restored.

■ Negative/positive recording

1. Place the camera/recorder in record pause.
2. Repeatedly press the D.EFFECT button until "NEGPOS" appears in the viewfinder or LCD monitor.
   The image in the viewfinder or LCD monitor will become negative.



Normal Mode　　Negative/Positive Mode

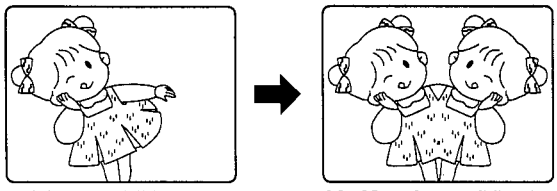
3. Press the start/stop button to start recording.
   - To release the negative mode, press the D.EFFECT button repeatedly in recording pause until normal mode is restored.

■ ×200 digital zoom recording

1. Place the camera/recorder in record pause.
2. Repeatedly press the D.EFFECT button until "ZM:2" appears in the viewfinder or LCD monitor.
3. Slide and hold the power zoom control to the "T" side until you reach your desired magnification.
4. Press the start/stop button to start recording.
   - To release the ×200 digital zoom mode, press the D.EFFECT button repeatedly in recording pause until normal mode is restored.
   - This function can magnify an image up to 200 times when instant zoom is used at the same time.

■ Half-mirror recording

1. Place the camera/recorder in record pause.
2. Repeatedly press the D.EFFECT button until "MIRROR" appears in the viewfinder or LCD monitor.
   The image in the viewfinder or LCD monitor will change to a symmetric image on the left and right, obtained by placing a mirror at the centre of the screen.



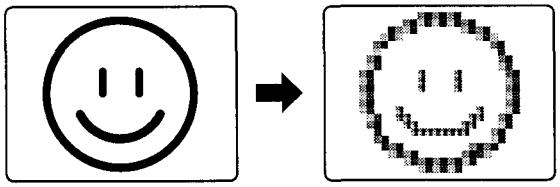
Normal Mode　　Half-mirror Mode

3. Press the start/stop button to start recording.
   - To release the half-mirror mode, press the D.EFFECT button repeatedly in recording pause until normal mode is restored.

NOTE: This function cannot be used with digital zoom, instant zoom or zoom fade function.

■ Mosaic recording

1. Place the camera/recorder in record pause.
2. Repeatedly press the D.EFFECT button until "MOSAIC" appears in the viewfinder or LCD monitor.
   The image in the viewfinder or LCD monitor will be in mosaic.



Normal Mode　　Mosaic Mode

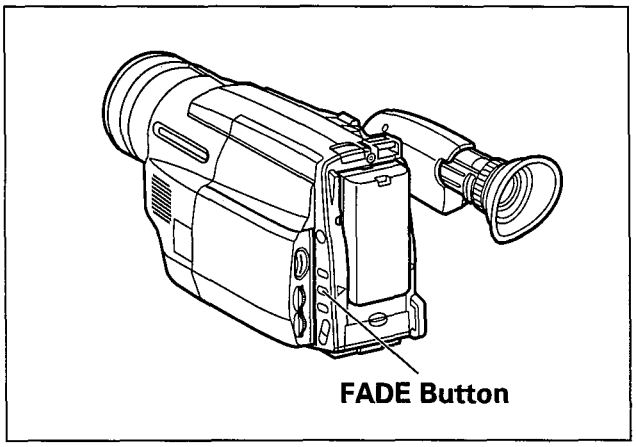
3. Press the start/stop button to start recording.
   - To release the mosaic mode, press the D.EFFECT button repeatedly in recording pause until normal mode is restored.

NOTE: This function cannot be used with digital zoom, instant zoom or zoom fade function.

FADE-IN/FADE-OUT

This feature lets you add a professional touch to your home recordings. When you fade into a scene, the recording will start with a blank scene and the picture will gradually appear. The picture gradually disappears when fading out. There are four fade modes.

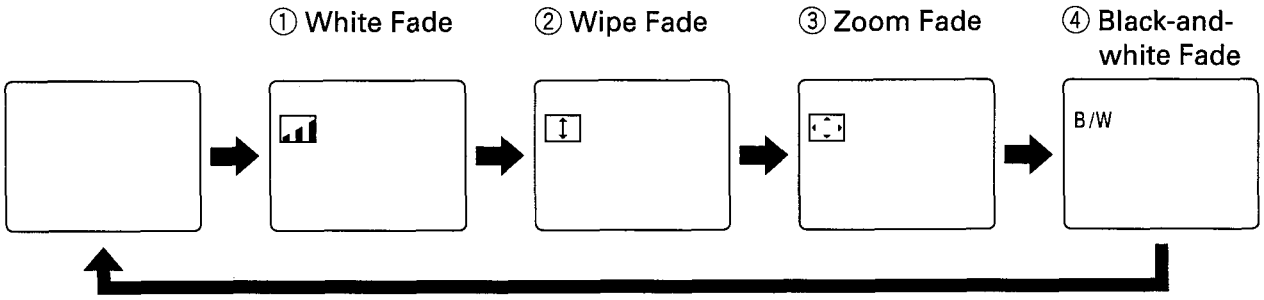
NOTE: When using FADE button, both picture and sound will gradually appear and disappear. The fade speed is automatically controlled by the camera/recorder.



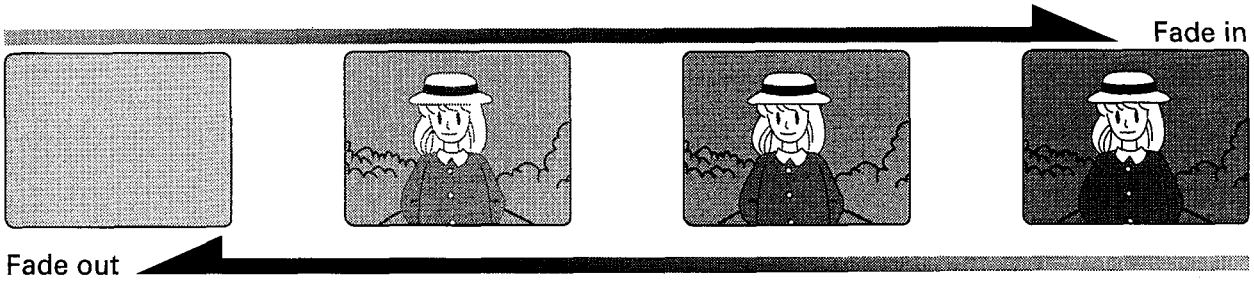
■ To select the fade mode

Each time the button is pressed, the FADE mode is switched and displayed in the viewfinder or LCD monitor. The last mode selected will appear first.

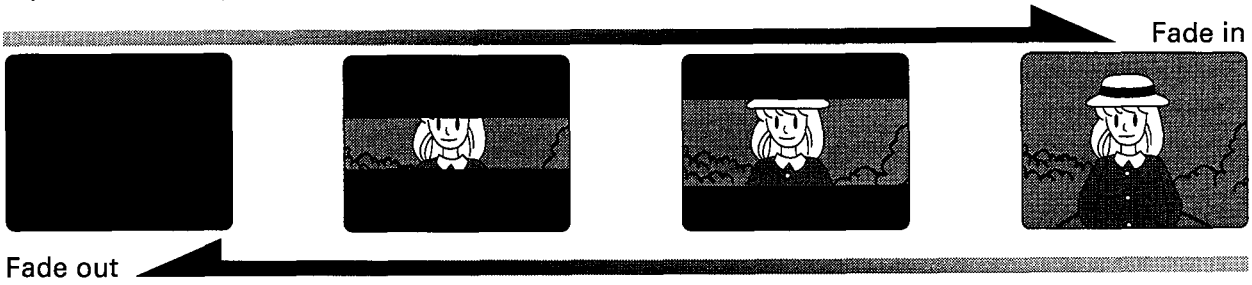
NOTE: If you press the D.EFFECT button after setting the fade function, the fade function will be released. After setting the digital effect mode, reset the fade function.



① White Fade (fading in/out, from/to a white picture)

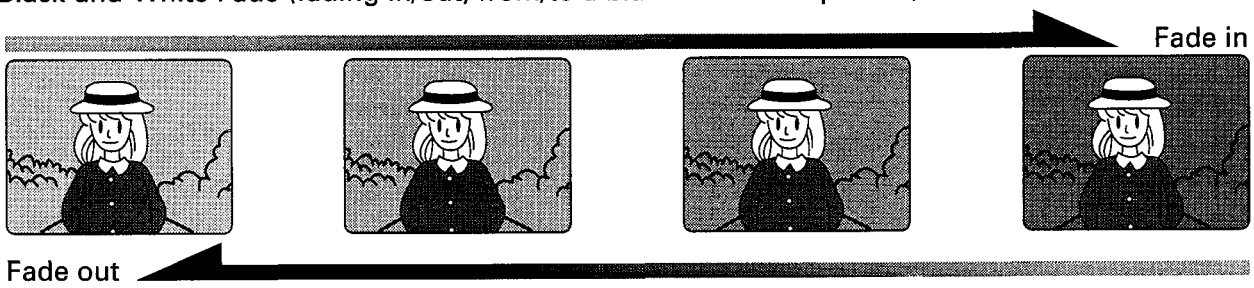


② Wipe Fade (fading in/out, from/to a black picture)



③ Zoom Fade (fading in/out while zooming)

④ Black-and-White Fade (fading in/out, from/to a black-and-white picture)



■ **FADE-IN**

1. Press the FADE button before recording to select the fade mode.
2. Press the Start/Stop button to start recording.
   - The picture fades in automatically and recording starts.

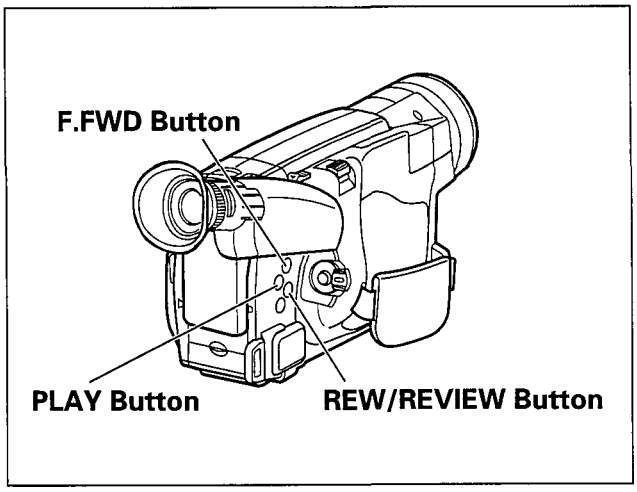
■ **FADE-OUT**

1. While the camera/recorder is recording, press the FADE button to select the fade mode.
2. Press the Start/Stop button to stop recording.
   - The picture fades out automatically and "REC" flashes until the fade ends then recording stops.

NOTE: When fading out be sure to wait until the PAUSE indicator (●II) is visible in the viewfinder or LCD monitor before attempting to put the camera/recorder into the record mode again.

QUICK EDIT

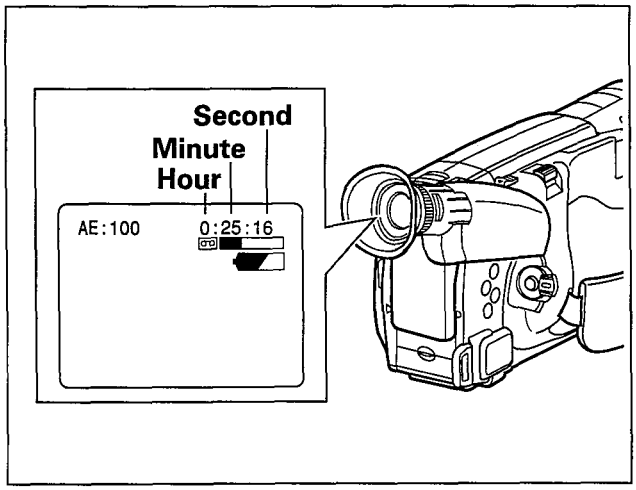
The quick edit feature allows you to search for the end of previously recorded material, or find a particular spot on your tape, to begin your editing, or recording new material. Quick edit is used while the camera/recorder is in the record/pause (stand-by) mode. By holding down the F.FWD, REW/REVIEW or PLAY button you can visually search or play your tape. Releasing the buttons (F.FWD, REW/REVIEW or PLAY) immediately stops the tape at that position.



LINEAR TIME COUNTER

Shows length of tape run in hours, minutes and seconds.
When the camera/recorder is turned on, the linear time counter appears in the viewfinder or LCD monitor.
Load a cassette into the camera/recorder and perform recording or playback; the counter indicates the elapsed time. Press the COUNTER RESET button on the remote control to reset the counter to "0:00:00".

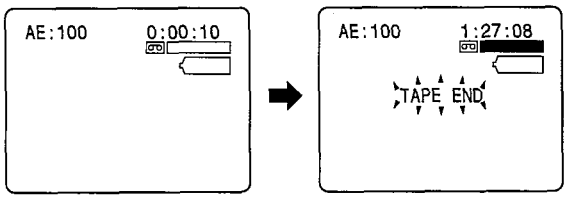
NOTE: Counter changes to "0:00:00" when cassette is ejected.



REMAINING TAPE

The tape remaining display shows the remaining tape that can be used for recording and playback in the viewfinder or LCD monitor using bars.

Insert a cassette into the camera/recorder; "⊡ – – – – – –" appears in the viewfinder or LCD monitor. 10 seconds after recording or playback is started, the remaining tape will be displayed. The display will appear when a cassette is loaded, and it will disappear when the cassette is ejected.



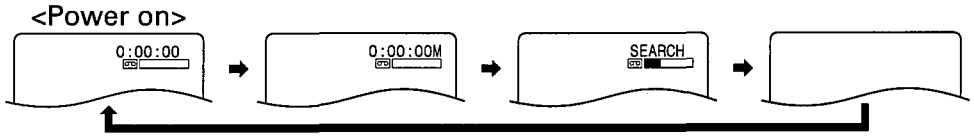
NOTES:

- The maximum tape remaining is displayed by the 7 bars as shown below regardless of the recording time of the cassette being used. The remaining tape per bar is different for different cassettes.
- The tape remaining display appears 10 seconds after the tape starts to run.
- The "TAPE END" indication in the viewfinder or LCD monitor starts flashing when there is about three minutes recording time left on the cassette.

DISPLAY BUTTON

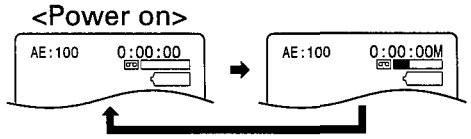
Pressing the DISPLAY button on the remote control allows you to switch the displays in the viewfinder or on the LCD monitor.

Display in the viewfinder or LCD monitor in the VIDEO mode:



Linear time counter | Linear time counter with memory | Date search function | No display

Display in the viewfinder or LCD monitor in the CAM mode:



Linear time counter | Linear time counter with memory

- When a recorded tape is in the camera/recorder during the VIDEO mode, "SEARCH" appears in the viewfinder or LCD monitor. (Refer to "DATE SEARCH" below.)

NOTES:

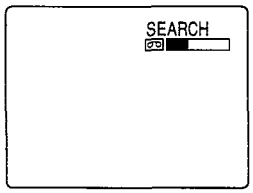
- The linear time counter with the memory feature and "SEARCH" in the viewfinder or LCD monitor can also be displayed on the connected television.
- If the LCD monitor is opened or closed (the picture is switched) during playback, the on-screen display in the picture will disappear for about one second, and then reappear again.
- When the date and time appear on the LCD monitor, you cannot erase them by pressing the DISPLAY button. If you want to erase the on-screen display, press the DATE/DISP. button on the camera/recorder.

DATE SEARCH

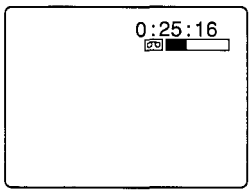
The date search function memorizes the start and end positions of recordings you made on a specific day so you can easily locate those positions later as long as the cassette is left in the camera/recorder.

NOTE: Be sure that the date and time are set.

1. Attach a power source and slide the CAM/OFF/VIDEO switch to "VIDEO".
2. Press the DATE/DISP. button (the DISPLAY button on the remote control) to display "SEARCH" in the viewfinder or LCD monitor.



3. Press the REW/REVIEW button to search for the start position from which you last made a recording or the F.FWD button to recording end position.
   "◀◀ SEARCH" will appear while the start position is being searched for; "SEARCH ▶▶", while the end position is being searched for.
4. When the required position is located, the camera/recorder enters the stop mode and "SEARCH" disappears from the viewfinder or LCD monitor.



NOTES:

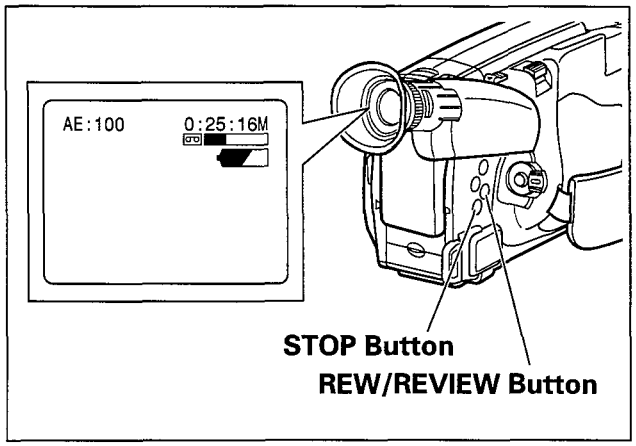
- If you have ejected the cassette, this function will not operate with that cassette. (When a cassette is inserted and the recording is started, the position is identified as the recording start position on that day.)
- If the clock battery is not inserted, the date search function does not operate when the battery providing the power to the camera/recorder is removed.
- When the cassette was recorded by another camera/recorder, the date search function does not operate.
- The date search function is released when you press the STOP button during date search mode.
- If the recorded time is less than 30 seconds, the date search function may not operate normally.

MEMORY

When the linear time counter with memory indication appears in the viewfinder or LCD monitor, a tape that is being rewound automatically stops when the counter reads approximately "0:00:00M". This is useful if there is a section of tape you want to review immediately after recording or if you want to return to the same point several times in a row.

1. Start playing or recording a tape.
2. At the point you want playback to start, press COUNTER RESET button on the remote control to reset the counter to "0:00:00M".
3. Continue to play or record.
4. Press the STOP button to stop playback, or press the Start/Stop button to stop recording and set the CAM/OFF/VIDEO switch to "VIDEO".
5. Press the DISPLAY button on the remote control until the linear time counter with memory is displayed.
6. Press the REW/REVIEW button. The tape will be rewound to the preselected point, at approximately "0:00:00M" indication.

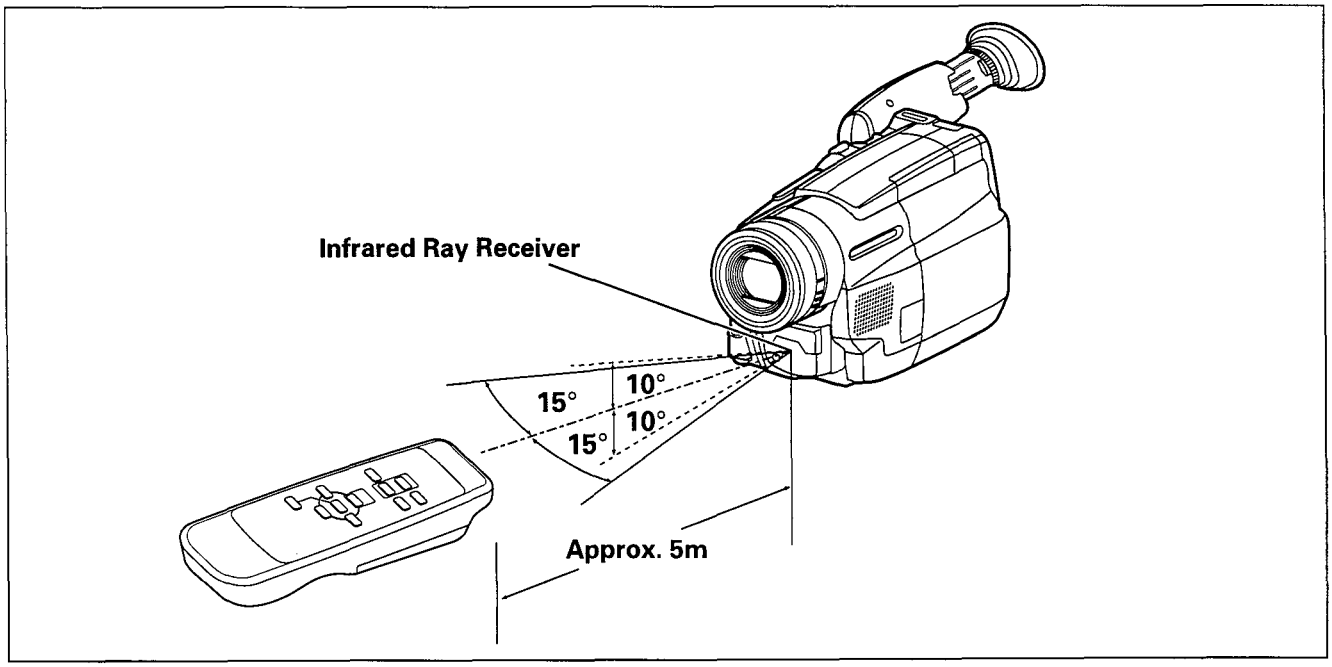
NOTE: The tape will also stop approximately at "0:00:00M" during fast forward mode.



WIRELESS REMOTE CONTROL

You can operate the camera/recorder with the wireless remote control (provided) from a distance. The buttons on the remote control except for A/V DUB, DISPLAY, COUNTER RESET and TITLE ON/OFF have the same functions as the buttons with the same identifications on the camera/recorder. Aim the remote control at the receiver of the camera/recorder.

■ **Remote controllable range**



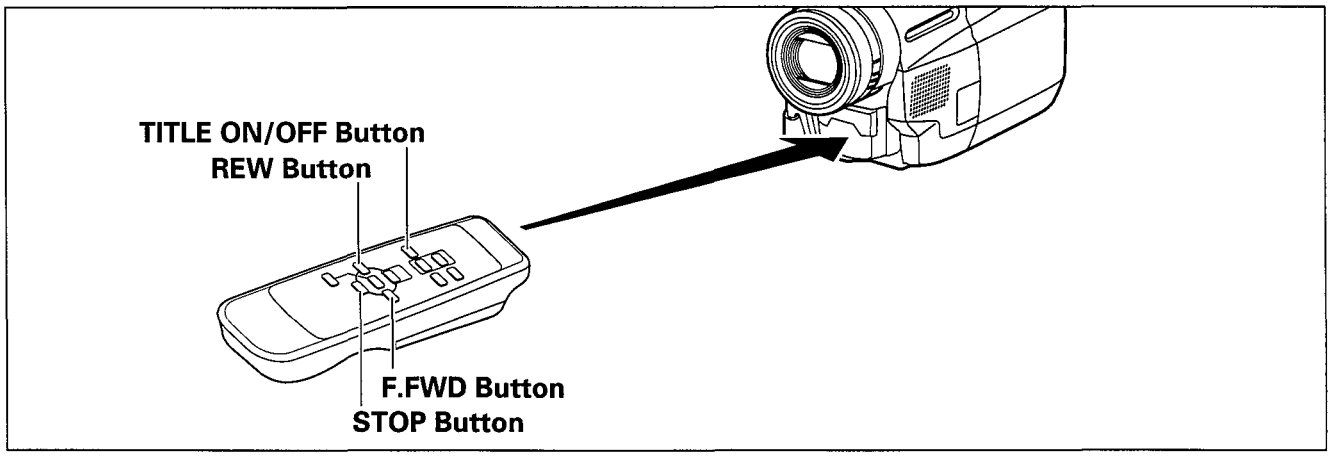
Cautions on the remote control

- Use the remote control indoors. When the infrared ray receiver is exposed to direct sunlight or strong light such as that from artificial lighting, the remote control may not operate correctly.
- The remote control cannot be operated if there is an obstacle between the remote control and infrared ray receiver.
- The remote control code of this camera/recorder is "VCR2". If the remote control code of your VCR is the same, "VCR2", your VCR may malfunction when this remote control is used.

TITLE RECORDING

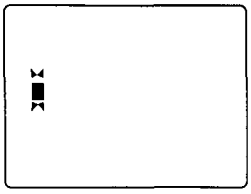
You can easily create a personalized title and record it on your videos with the camera/recorder's built-in titler.
Once a title is stored, it can be displayed and recorded at anytime. A title page can contain two lines of 16 characters each.
The titler contains 47 different characters for creating a title.
When creating and recording a title, use the TITLE ON/OFF button on the remote control. The DATE/DISP. button on the camera/recorder can also be used to create a title in the camera mode.

NOTE: Be sure to insert the clock battery before creating a title. Although a title can be created without the clock battery inserted, it will disappear when the battery providing power to the camera/recorder is removed.



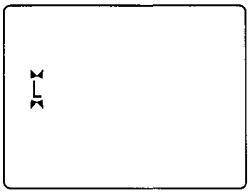
■ Creating a title

1. Press the TITLE ON/OFF button on the remote control. The flashing cursor will appear in the viewfinder or LCD monitor.

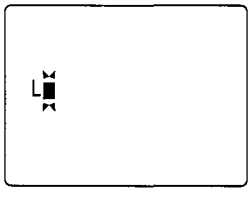


2. Press the STOP button repeatedly to move the flashing cursor to the place you want to begin your title.
3. Select the first character for your title by pressing the REW or F.FWD button repeatedly until the desired character appears.

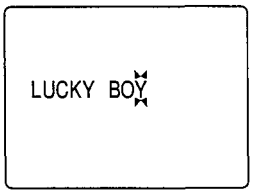
   NOTE: A title can contain up to two lines of 16 characters each. A chart showing the characters contained in the registers is located on the right.



4. After you have selected the first character, press the STOP button to move the flashing cursor to the place you want the next character.



5. Repeat steps 3 and 4 until you have completed the title.



   NOTE: Character may flash, however it will be recorded correctly without flashing.
6. After creating the title, press the TITLE ON/OFF button on the remote control to remove the title graphics from the viewfinder or LCD monitor. Now title graphics are stored in memory.

   NOTES:
   - As long as the correct current time can be displayed, the title is held in memory.
   - When a title has been displayed using the remote control, it cannot be erased by pressing the DATE/DISP. button on the camera/recorder.

■ Correcting errors during programming

1. Press the STOP button repeatedly until the character to be corrected flashes.
2. Press either REW or F.FWD button until the correct character appears.

NOTE: The corrected character may flash, however it will be recorded correctly without flashing.

■ Chart of characters available in the titler

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
S	T	U	V	W	X	Y	Z	0	1	2	3	4	5	6	7	8	9
?	'	.	/	,	-	+	:	<	>	!							

■ **Recording a title on a tape in the camera/recorder**

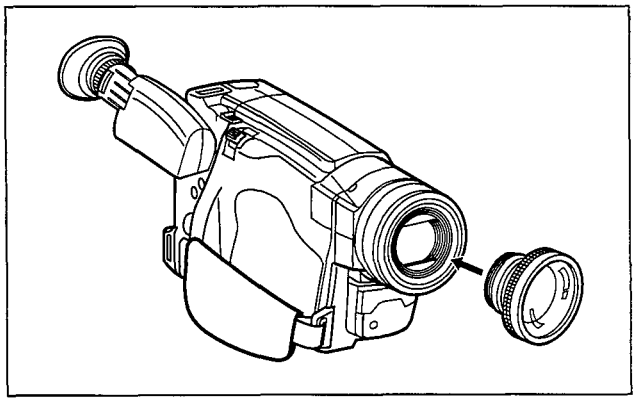
1. Slide the CAM/OFF/VIDEO switch to "VIDEO".
2. Locate the position on the tape that you wish to record the title.
3. Slide the CAM/OFF/VIDEO switch to "CAM".
4. Press the TITLE ON/OFF button on the remote control to display the title graphics.
5. Press the Start/Stop button to start the title recording.
6. Press the TITLE ON/OFF button on the remote control to remove the title graphics from the viewfinder or LCD monitor.
   The camera/recorder will now record as normal.

■ **Recording a title on another VCR while playing a tape back with the camera/recorder**

1. Connect the camera/recorder and VCR.
   (See page 37.)
2. Set the VCR in the recording mode and camera/recorder in the playback mode.
3. Press the TITLE ON/OFF button on the remote control when you see the scene where you want to record the title.
4. Press the TITLE ON/OFF button on the remote control to erase the display from the viewfinder or LCD monitor.

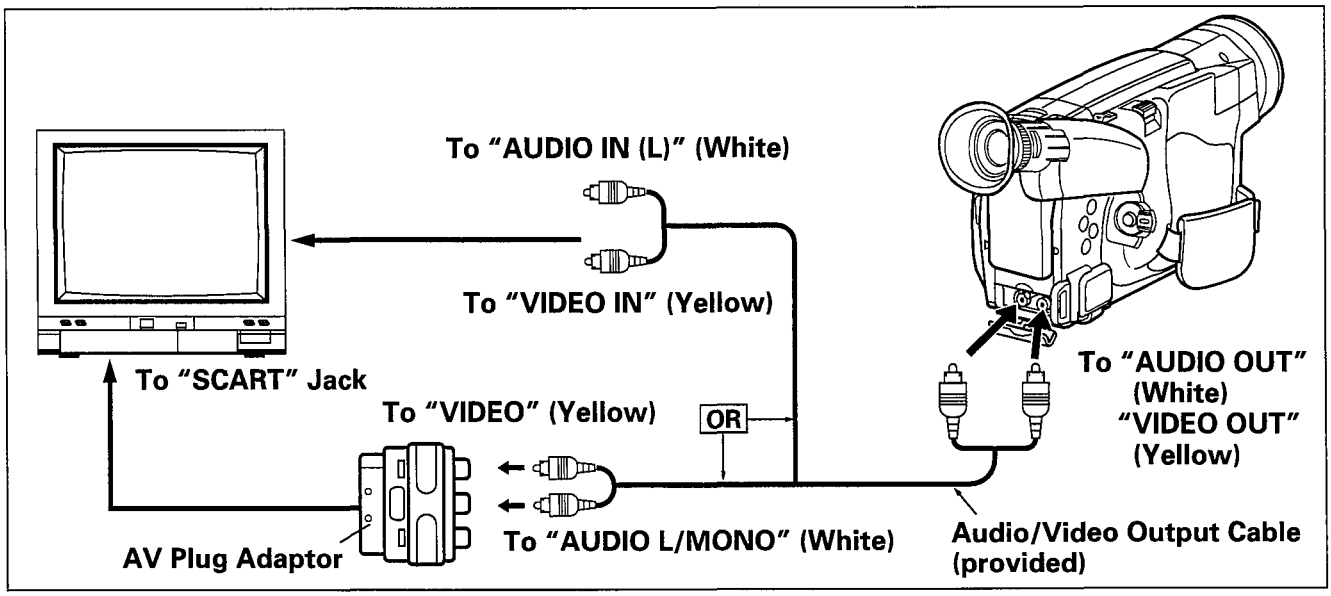
ATTACHING THE TELE OR WIDE CONVERTER

Screw the lens into the threads on the front of video camera/recorder lens assembly.



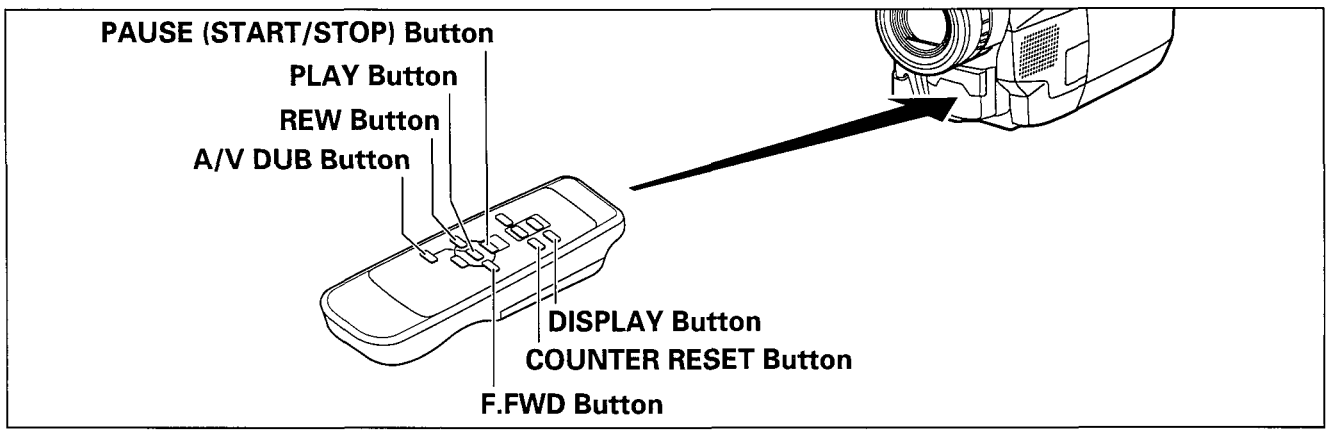
AUDIO/VIDEO DUBBING

Audio/video dubbing lets you record new audio and video from the camera/recorder's built-in microphone and camera onto the tape in the camera/recorder.



NOTES:
- If your TV has "AUDIO/VIDEO IN", connect the audio/video output cable directly to the TV.
- If your TV has "SCART" jack, connect the audio/video output cable to the AV plug adaptor, and then connect the adaptor to the SCART jack of your TV.
- If your TV has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the TV.
- When the audio/video dubbed portion is played back, noise may appear at the end of the dubbed portion.
- If the camera/recorder is in AV DUB pause or STILL mode for more than 5 minutes, the camera/recorder stops automatically to protect the tape.
- Automatic date recording is disabled during audio/video dubbing.

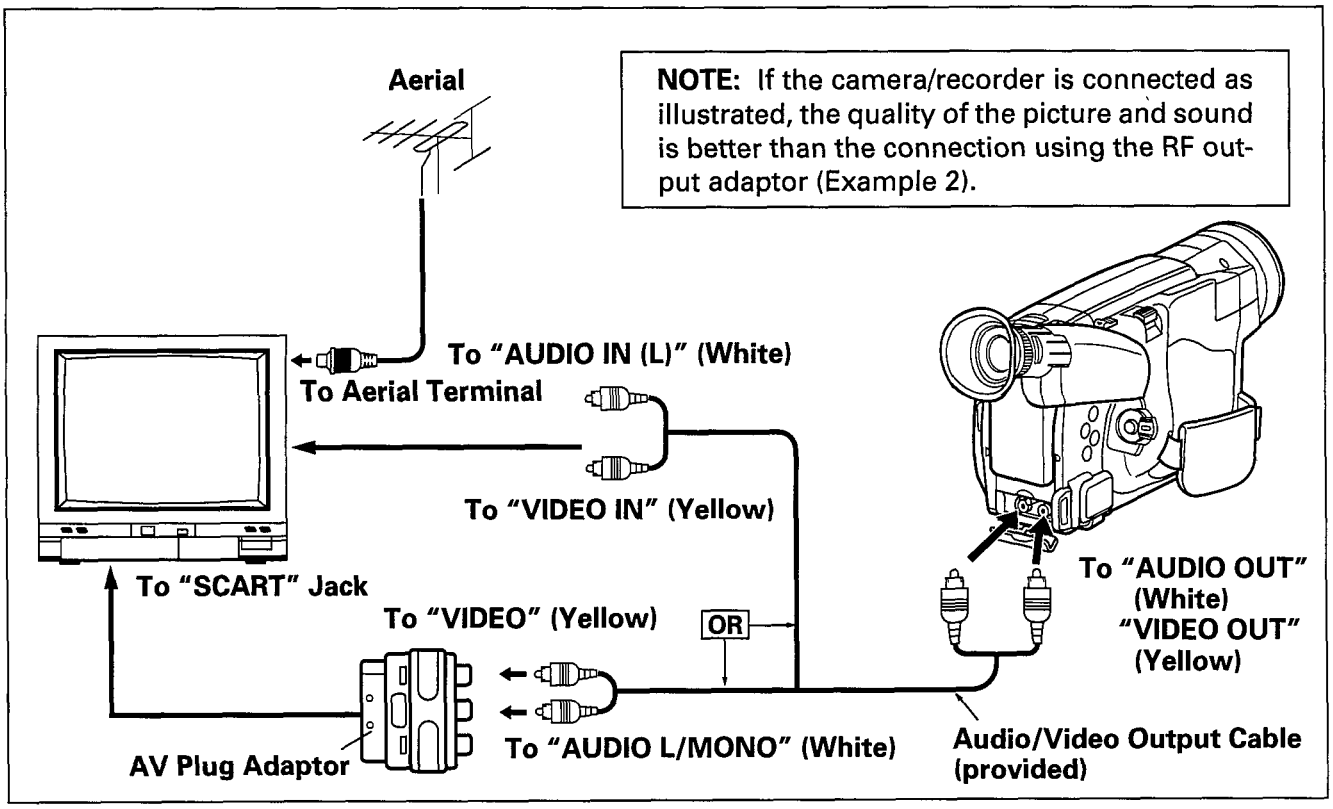
1. Insert a recorded tape.
   Be sure that the record-protect tab is not closed.
2. Slide the CAM/OFF/VIDEO switch to "VIDEO".
3. Aim the remote control at the receiver on the camera/recorder.
4. Press the PLAY button and then REW or F.FWD button to search to the approximate area on the tape where you want to begin your dub.
5. Press the PLAY button again to search for the exact position that you want to stop dubbing and then press the PAUSE (START/STOP) button.
6. Press the DISPLAY button so that the linear time counter with memory appears and then press the COUNTER RESET button to set the counter reading to "0:00:00M".
7. Press the REW button to rewind the tape to the approximate position that you want to start dubbing.
8. Press the PLAY button, and when the exact position that you start to dub is reached, press the PAUSE (START/STOP) button.
9. Press and hold the A/V DUB button, and then press the PLAY button. "A/V DUB **II**" appears in the viewfinder or LCD monitor, and at the same time the picture to be dubbed appears.
10. Press the PAUSE (START/STOP) button.
    "A/V DUB" will appear in the viewfinder or LCD monitor and A/V dubbing will start. A/V dubbing will stop when the counter reads "0:00:00M".



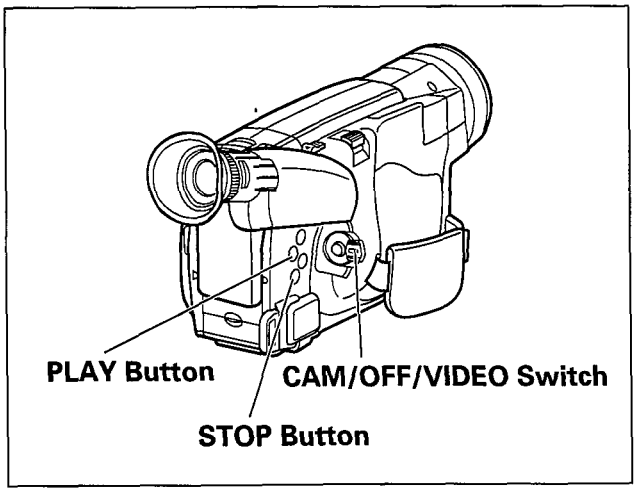
CONNECTIONS AND OPERATIONS FOR VIEWING THE PICTURE PLAYED BACK ON YOUR TV

To play back a tape recorded on your camera/recorder and view it on your TV receiver, you must connect the camera/recorder to the TV receiver using either audio/video output cable or RF output adaptor.

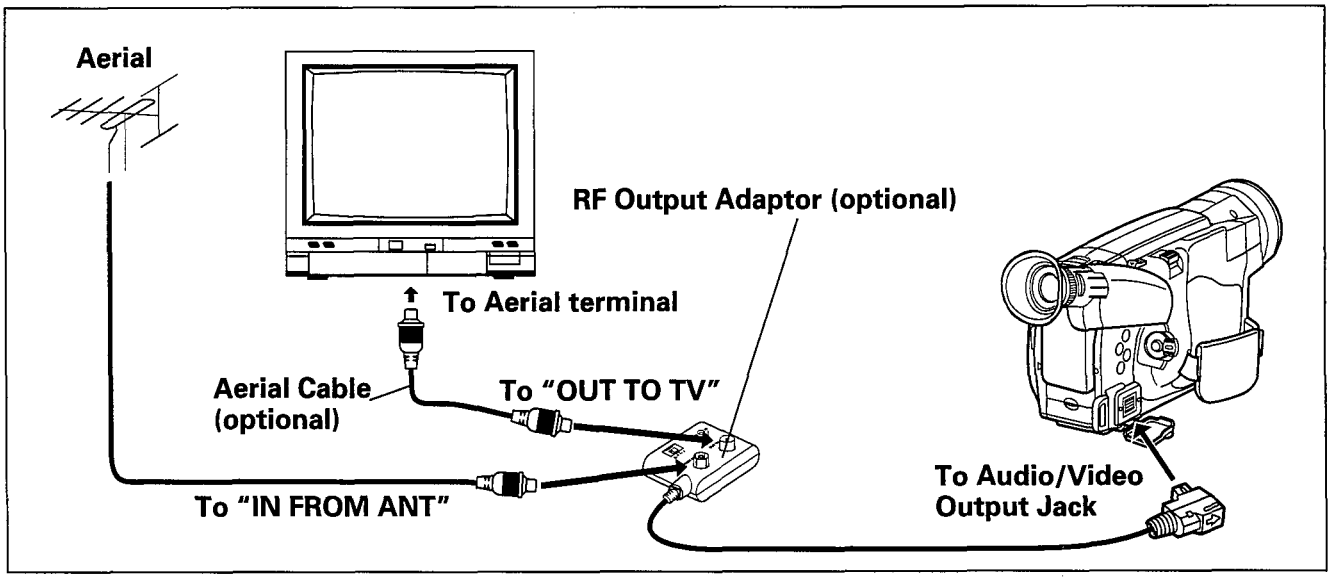
Example 1: If your TV has SCART jack or AUDIO/VIDEO IN jacks,


Aerial
NOTE: If the camera/recorder is connected as illustrated, the quality of the picture and sound is better than the connection using the RF output adaptor (Example 2).
To "AUDIO IN (L)" (White)
To Aerial Terminal
To "VIDEO IN" (Yellow)
To "SCART" Jack
To "VIDEO" (Yellow)
OR
To "AUDIO OUT" (White)
"VIDEO OUT" (Yellow)
AV Plug Adaptor
To "AUDIO L/MONO" (White)
Audio/Video Output Cable (provided)

1. Connect the TV and camera/recorder as illustrated above.
   NOTE: If your TV has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the TV.
2. Turn on TV and select video input.
3. Insert the cassette.
4. Slide the CAM/OFF/VIDEO switch to "VIDEO".
5. Press the PLAY button.
6. After playing press the STOP button.



Example 2: If your TV is a regular TV,



1. Remove the antenna cable from your TV set. Connect this cable to "IN FROM ANT" on the RF output adaptor.
2. Connect the Aerial cable to "OUT TO TV" on the RF output adaptor.
3. Connect the other end to aerial terminal on your TV.
4. Connect the connector cable from RF output adaptor to audio/video output jack on the camera/recorder.
5. Turn on the TV and select an unused channel (CH37). Refer to "VIDEO CHANNEL SETTING" below.
6. Perform same procedures in steps 3 through 6 of "Example 1" on page 35.

NOTES:

- With this connection, the output sound is monaural.
- With some TVs, audio noise may be heard during forward/reverse search and during still playback.

NOTE: If you want to watch a TV programme with camera/recorder connected as illustrated, slide the CAM/OFF/VIDEO switch of the camera/recorder to "OFF".

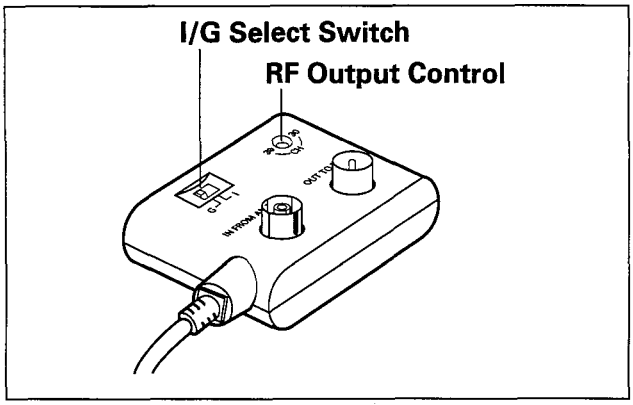
VIDEO CHANNEL SETTING

When viewing the picture played back by the camera/recorder on your TV, change over the I/G select switch of the RF output adaptor matching your TV as well as to select the video channel on the TV.

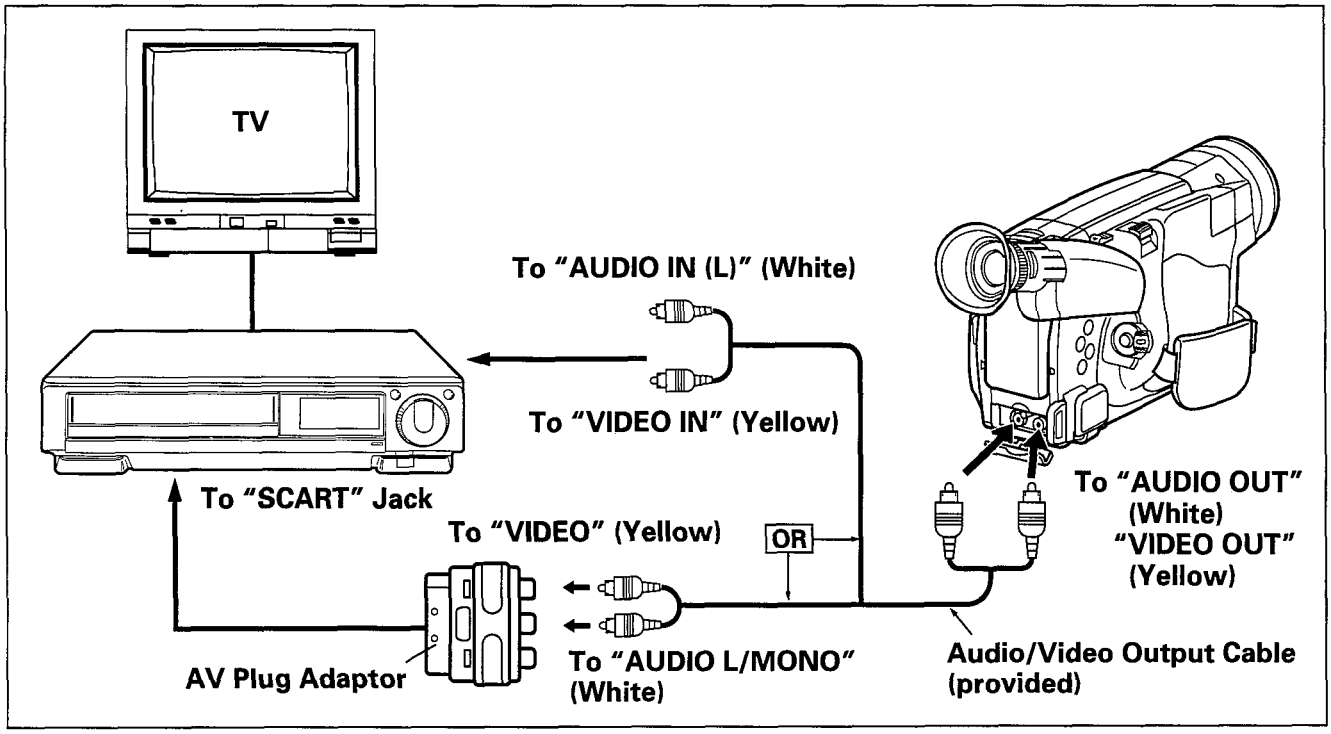
1. Connect TV, RF output adaptor and camera/recorder. (See above)
2. Set I/G select switch on RF output adaptor as follows.

Colour TV broadcast system in your country	Position of I/G Select Switch
PAL (System I)	I
PAL (System B & G)	G

3. Turn on TV and select an unused channel (CH37). (In some cases this may be marked A/V.)
4. Insert the recorded tape to camera/recorder.
5. Slide the CAM/OFF/VIDEO switch to "VIDEO".
6. Press the PLAY button of camera/recorder. Now playback picture appears on your TV. If the playback picture is not clear or channel 37 is used for broadcasting in your area, adjust the RF output control of RF output adaptor using a small screwdriver and readjust your TV until the playback picture is clearly observed.



CAMERA/RECORDER TO VCR DUBBING



1. Connect the camera/recorder, VCR and TV as shown in the figure, and then turn on their operate switches.

   NOTES:
   - Select line input with your VCR. Refer to the instruction manual of your VCR for details.
   - Reduce the volume of the camera/recorder as low as possible during dubbing. Otherwise the played back pictures could be distorted.
   - If your VCR has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the VCR.

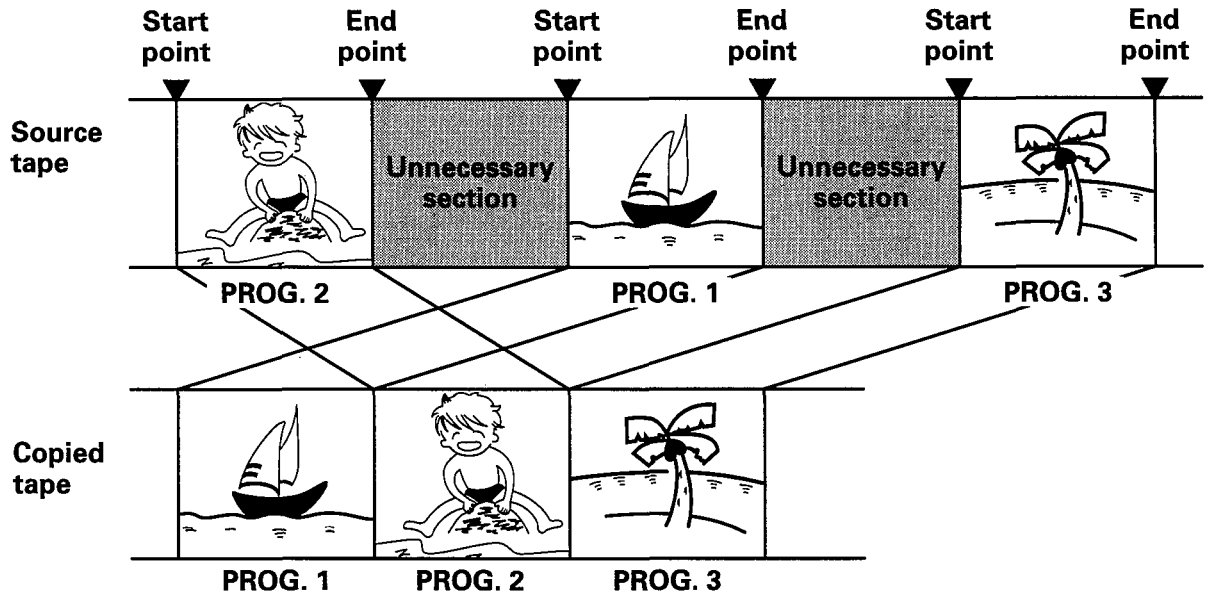
2. Insert the cassette used for editing into the camera/recorder and the cassette to be recorded into the VCR.
3. Play the tape on camera/recorder and record it on the VCR.

SIMPLE PROGRAMMABLE EDIT (The edit remote control is optional)

Simple programmable edit allows you to programme your camera/recorder to select the scenes you want to copy from a pre-recorded tape. Use the edit remote control (optional) to easily copy scenes from a recorded tape in the camera/recorder (playback machine) onto a blank tape in a table-top VCR which handles infrared remote signals (recording machine).

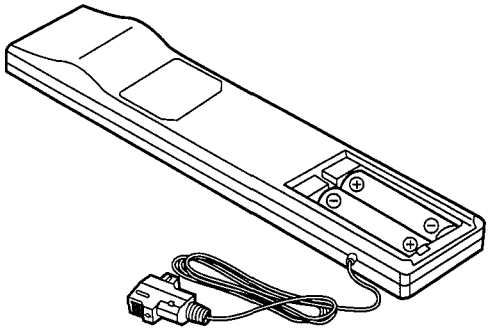
NOTES

- Only the VM-RM20EDE edit remote control (optional) can be used with this camera/recorder.
- Some VCRs cannot be operated by the edit remote control (optional).



■ How to install the batteries

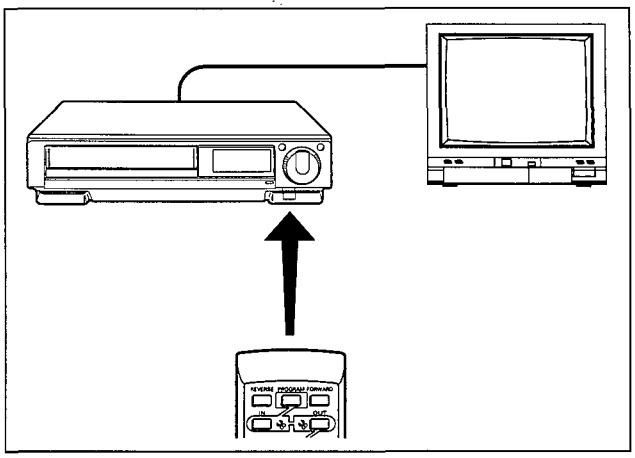
- Be sure to install two IEC R6 batteries before use.
- Be careful to install with the correct polarity.



Cautions on batteries

- Do not use the old and new batteries at the same time.
- Do not mix batteries of different types.
- Do not short, take apart or dispose of batteries by throwing them into a fire.
- When liquid leaks, wipe it off completely and then insert new batteries.

■ Remote controllable range

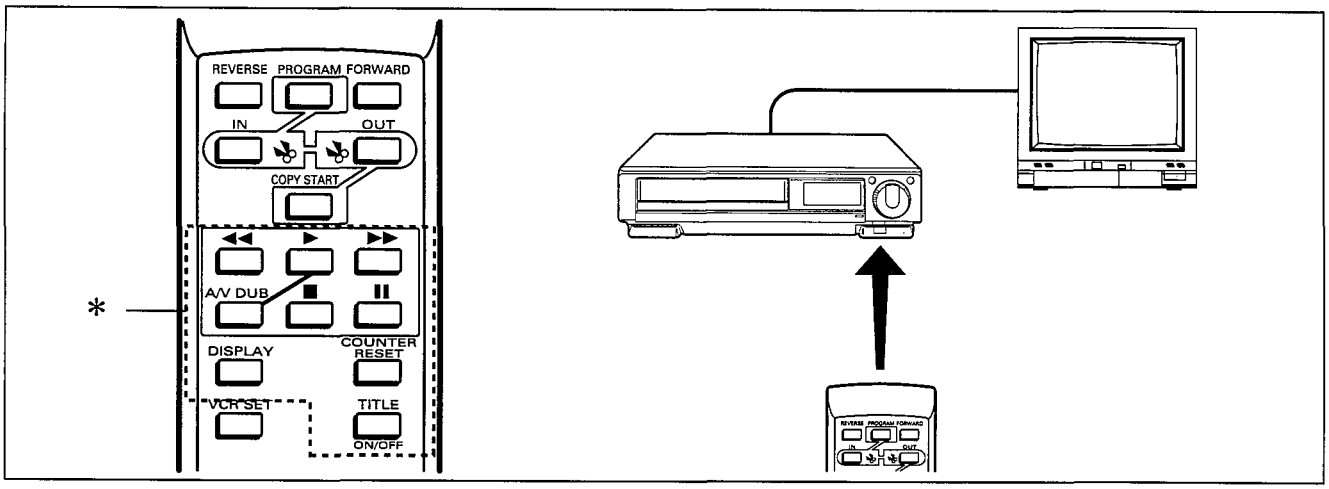


Cautions on the remote control

- Point the remote control straight at the VCR's infrared receiver for operation.
- Use the remote control indoors. When the infrared receivers of the VCR and camera/recorder are exposed to direct sunlight or strong artificial light, the remote control may not operate correctly.
- The remote control cannot be operated if there is an obstacle between the remote control and infrared receiver. Especially, be careful of this during dubbing.

■ Programming the remote control for the VCR

It is necessary to programme the edit remote control code to match the VCR before starting editing.



1. Turn the VCR on.
2. Aim the remote control at the infrared receiver on the VCR and press the VCR SET button on the remote control and hold it, then press the button corresponding to the VCR's maker code. For example, if you have a PHILIPS VCR, press the VCR SET button and hold it, then press the II button. To check whether the remote control code matches that of your VCR or not, point the remote control at the infrared receiver on the VCR and press the VCR SET button and hold it. If the remote control code has been set, the VCR channel is counted up automatically.

NOTES:

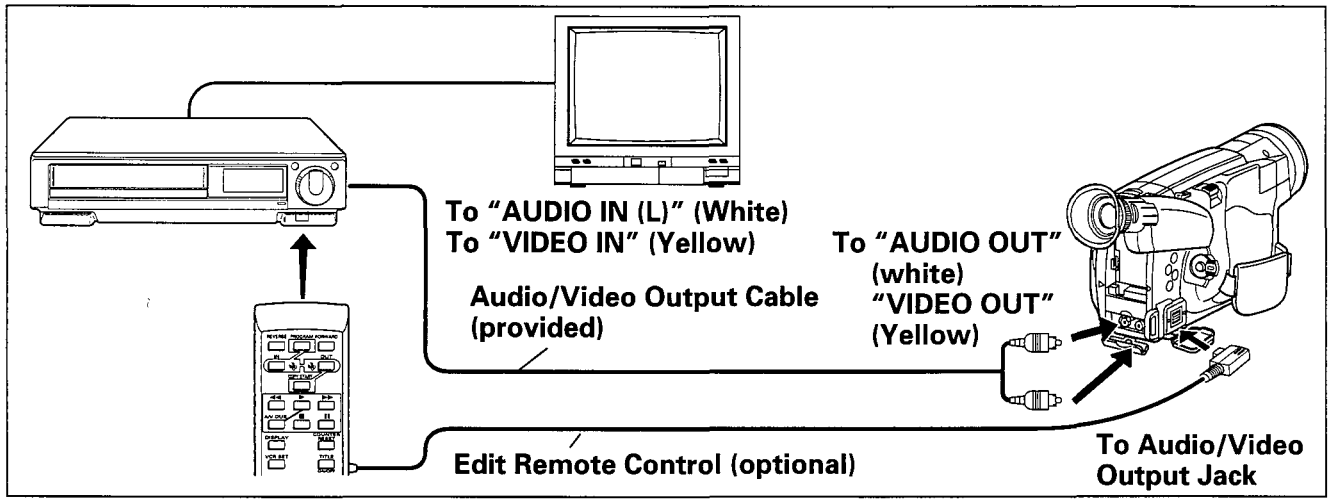
- Your VCR should have an infrared remote control.
- If the channel on the VCR does not change with the above operation, you need to switch the remote control code of your VCR. Refer to the VCR's instruction manual. If the channel still does not change after you have changed the VCR's remote control code, the edit remote control cannot operate your VCR.
- The remote control code is held in memory until it is changed or the batteries are replaced.

VCR maker	Press VCR SET and the following button
HITACHI	REVERSE
SONY	PROGRAM
Panasonic	FORWARD
TOSHIBA	IN
MITSUBISHI	COPY START
SANYO	OUT
SHARP	◀◀
NEC	▶
JVC	▶▶
AKAI	A/V DUB
Gold Star	■
PHILIPS	II
LOEWE	DISPLAY
Grundig	COUNTER RESET
THOMSON	TITLE ON/OFF

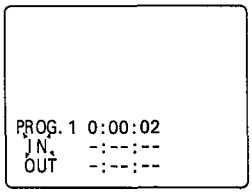
- When the edit remote control is connected to the camera/recorder, the buttons marked * in the figure above perform the same operations as those of the other remote control provided.

■ Operation

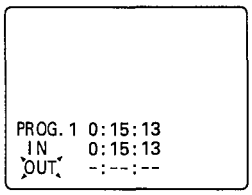
You can select up to four different scenes or segments to be copied at one time.


To "AUDIO IN (L)" (White)
To "VIDEO IN" (Yellow)
Audio/Video Output Cable (provided)
To "AUDIO OUT" (white)
"VIDEO OUT" (Yellow)
Edit Remote Control (optional)
To Audio/Video Output Jack

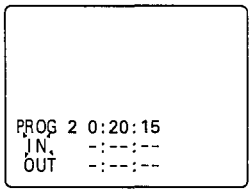
1. Use the audio/video output cable to connect the camera/recorder and VCR as illustrated and then connect the edit remote control to the camera/recorder.
   NOTE: If your VCR has two (stereo) audio inputs, connect the audio plug to the left-channel audio input on the VCR.
2. Insert a recorded tape into the camera/recorder.
3. Set the CAM/OFF/VIDEO switch of the camera/recorder to "VIDEO".
   Turn the recording VCR on and select line input.
4. Press the PROGRAM button of the remote control. The programme display appears in the viewfinder or LCD monitor.



   NOTE: If your VCR is connected to a TV, the programme display will also appear on the TV screen.
5. Press the ▶ button and use the ▶▶ or ◀◀ button to search for the starting point of the segment you want to copy. Press ▶ and then **II** to set the camera/recorder to the play pause mode.
   The linear time counter counts when searching for the starting point.
   Use the FORWARD and REVERSE buttons in the play or pause mode to fine adjust the tape position. Press FORWARD and hold it; the tape is played while the button is held. Press REVERSE and hold it for reverse play.
6. Press the IN button to store the counter reading. When you press the IN button, "OUT" flashes in the programme display.



7. Press the ▶▶ button to search for the end of the segment you want to copy. Press ▶ and then **II** to set the camera/recorder to the play pause mode. Use the FORWARD or REVERSE button as required to fine adjust the tape position.
8. Press the OUT button to store the counter reading at the end of the scene.



9. Continue programming as described above until you have entered up to four different segments.
10. Load a blank tape, then set the VCR to the record pause mode.
11. Point the remote control at the receiver on the VCR and press the COPY START button to start simple programmable edit.
    - The camera/recorder automatically searches for the beginning of the first segment and starts playback. The recording VCR automatically starts recording.
    - After recording the first segment, the camera/recorder automatically searches for the beginning of the next segment and resumes playback. The recording VCR is automatically released from the record pause mode and resumes recording.
    - It continues recording and pausing until all the programmed segments are edited.
12. When simple programmable edit is finished, the camera/recorder will enter the stop mode, and the VCR will enter the record pause mode.
    NOTE: After the simple programmable edit is finished, the programmed data is erased. If you want to continue editing other segments, repeat steps 5–12.

NOTES:

- If you make a mistake during programming, start again from the beginning or press the COUNTER RESET button to return to the previous steps one by one and enter the correct programme data.
- Most VCRs (recording machine) may be released from the record pause mode if it continues for more than five minutes.
- The dubbing start and end positions may slightly drift from the specified positions when certain VCRs are used.
- Reduce the volume of the camera/recorder as low as possible during dubbing. Otherwise the played back pictures could be distorted.

■ To end programmable simple edit

Press the PROGRAM button to remove the programme display from the viewfinder or LCD monitor. Then press the stop button on the recording VCR to set it to the stop mode.

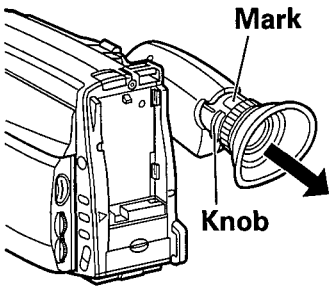
NOTE: If the CAM/OFF/VIDEO switch of the camera/recorder is set to "OFF" or "CAM" when the recording VCR is in the record pause mode, the VCR enters the record mode.

TROUBLESHOOTING

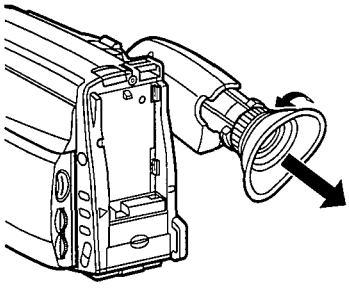
Symptom	Check Point & Correction
Cassette holder cannot be opened when you slide the EJECT switch.	Connect the power source.
	Open the LCD monitor, then slide the EJECT switch.
Cassette cannot be inserted into cassette compartment.	Load cassette in direction indicated by arrow on cassette.
	The cassette window must be towards the outside.
Picture does not appear in the viewfinder or LCD monitor.	Open the lens door.
	Slide the CAM/OFF/VIDEO switch to "CAM" position.
The camera/recorder cannot go into the recording mode, even when Start/Stop button is pressed.	Check the record-protect tab on the cassette. See page 14 for details.
	Set the CAM/OFF/VIDEO switch to "CAM" position.
	Push the cassette door embossed PUSH LOCK to close it.
	The " ▬ " indication in the viewfinder or LCD monitor flashes to indicate battery is discharged. Try another battery or charge the battery.
PLAY button cannot be engaged.	Set the CAM/OFF/VIDEO switch to "VIDEO" position.
Interference on playback picture. (The TV is connected to the camera/recorder using the RF output adaptor.)	When you see the playback picture on your TV, adjust fine tuning knob on television set to obtain the best picture.
Picture is out of focus. Auto-focus does not operate correctly.	Press the FOCUS control buttons simultaneously to erase "FOCUS" in the viewfinder or LCD monitor.
	Auto-focus does not operate correctly if a special-effects filter is attached or with the objects shown on page 21.
Power is interrupted.	If the record pause mode continues for more than 5 minutes, power is shut off automatically. Press the Start/Stop button to restore the power.
Power is turned on, but no button operations are accepted.	Remove the power source and the clock battery. And after about one minute, the display in the viewfinder or LCD monitor will be reset. Then set the information again.
"TAPE" appears in the viewfinder or LCD monitor.	Have you moved the camera/recorder or cassette from a cold place to a warm place so that its temperature changed abruptly? If the temperature has changed, remove the cassette and set the CAM/OFF/VIDEO switch to OFF, then wait for about one hour.
	Remove the cassette and then try to reinsert: remove it several times. If the indication is still shown in the viewfinder or LCD monitor, use a cleaning tape to clean the heads and replace the cassette.
The battery level indicator " ▭ " appears differently on the LCD monitor and in the viewfinder.	This does not indicate a fault; it is because the power consumed by the LCD monitor and viewfinder is different.

CLEANING THE INSIDE OF THE ELECTRONIC VIEWFINDER

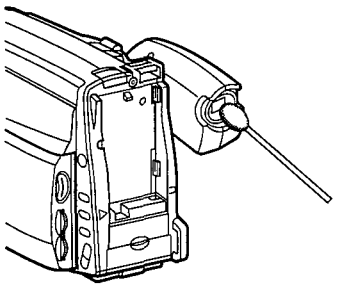
If dust or foreign matter adheres inside the viewfinder, clean it by using the following procedure.



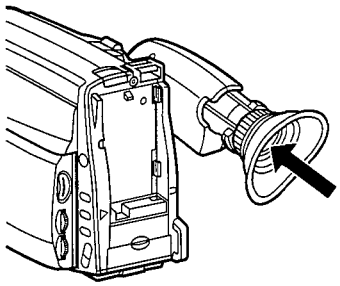
1. Grasp the knobs on both sides of the eye cup stem and pull out the eye cup far enough that a mark can be seen (up to half where the eye cup is pulled out all the way).



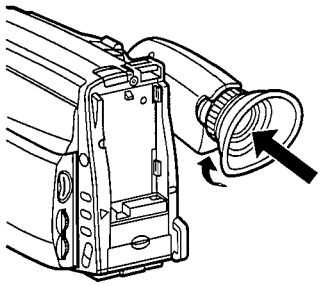
2. While still grasping the knobs, turn the eye cup counterclockwise until it stops; then pull out to remove it.



3. Clean the picture tube cover and lens. To prevent scratching, use a soft non-abrasive cloth, cotton swab or lens cleaning paper.



4. Grasp the knobs of the eye cup stem so the mark faces up as shown and push the eye cup in as far as it will go.



5. While grasping the knobs, turn the eye cup clockwise until it stops, then push it in all the way.

MAINTENANCE

1. To maintain the optimum performance of this camera/recorder, regular periodic maintenance is required. Your dealer will advise you further.
2. Maintenance and adjustments may not be carried out by the user. In all cases of difficulty or doubt, consult your dealer.
3. Head cleaning
   Dirt accumulated on the video heads after a period of time may cause the playback picture to become blurred or part of the video information to be lost. This does not mean that the recorded programme has been erased but head cleaning is required.
   Use a dry type head cleaning tape to clean the video heads.
   When it is difficult to remove a dirt using the head cleaning tape, head cleaning requiring highly technical care is necessary.
   Consult your nearest dealer or VCR service centre for head cleaning.

SPECIFICATIONS

■ General

Power requirements	7.2V DC
Power consumption	4.1 watts (when recording/LCD monitor OFF) 5.1 watts (when recording/LCD monitor ON)
Operating temperature	0°C to 40°C
Operating humidity	< 80%
Storage temperature	– 20°C to 60°C
Dimensions	104(W) x 115(H) x 239(D) mm
Weight	Approx. 920g (without battery pack and cassette)

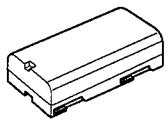
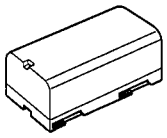
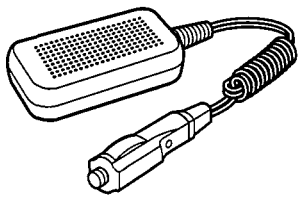
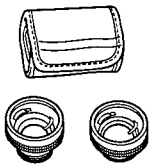
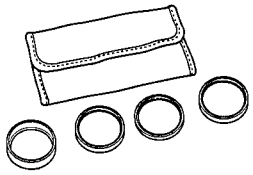
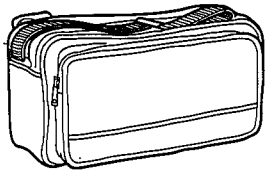
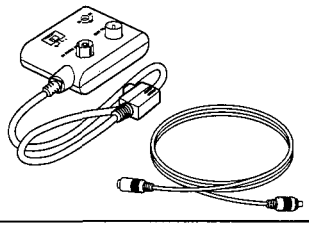
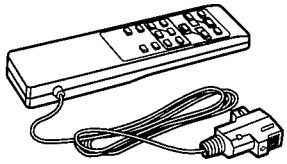
■ Video Recorder Section

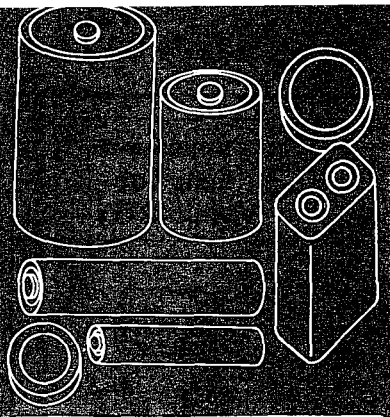
Format	8 mm
Record/playback system	Two video record/playback heads
Video signal	PAL colour & CCIR monochrome signals 625 lines
Tape speed	SP: 20.05 mm/sec.
Video output	1.0 Vp-p, 75 ohm
Audio output	– 8 dBs, less than 1K ohm
Fast forward/rewind time	Less than 8 minutes with P5-90 cassette

■ Camera Section

Scanning	625 lines/50 fields/25 frames
Required minimum illumination	0.8 lux
Camera device	1/4" C.C.D
Lens diameter	46 mm

OPTIONAL ACCESSORIES

Battery Pack (for standard play) VM-BPL13	Battery Pack (for long play) VM-BPL27, VM-BPL30	Car Battery Cord VM-CC80E	Conversion Lens Set VM-CL12TW
			
Filter Kit VM-FL60K	**Filter Kit VM-FL46K**	**Soft Case VM-CB55SR**	**RF Output Adaptor VM-RF85E(R)**
			
Edit Remote Control VM-RM20EDE			
			



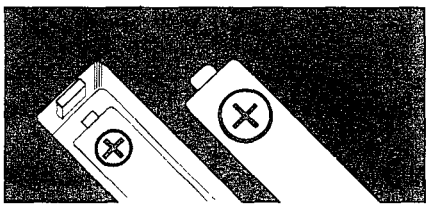
BATTERY SAFETY GUIDELINES

PLEASE PHOTOCOPY AND DISPLAY

Used correctly, domestic batteries are a safe and dependable source of portable power. Problems can occur if they are misused or abused– resulting in leakage or, in extreme cases, fire or explosion.

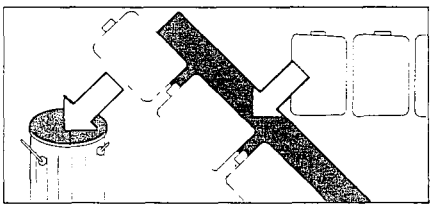
Here are some simple guidelines to safe battery use designed to eliminate any such problems.

ALWAYS



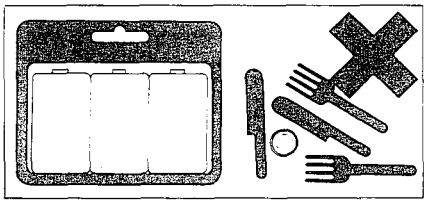
Take care to fit your batteries correctly, observing the *plus* and *minus* marks on the battery and appliance Incorrect fitting can cause leakage or, in extreme cases, fire or even an explosion.

ALWAYS



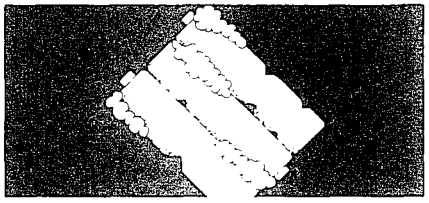
Replace the whole set of batteries at one time, taking care not to mix old and new batteries or batteries of different types, since this can result in leakage or, in extreme cases, fire or even an explosion

ALWAYS



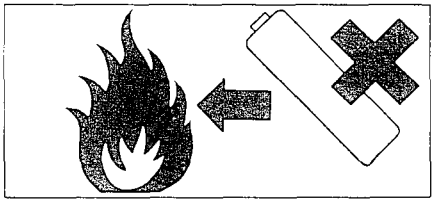
Store unused batteries in their packaging and away from metal objects which may cause a short-circuit resulting in leakage or, in extreme cases, fire or even an explosion

ALWAYS



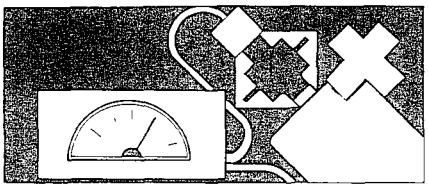
Remove dead batteries from equipment and all batteries from equipment you know you are not going to use for a long time Otherwise the batteries may leak and cause damage.

NEVER



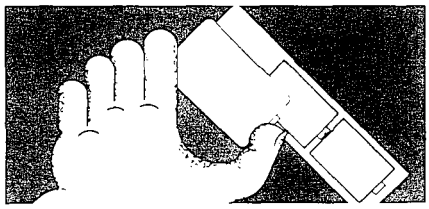
Never dispose of batteries in fire as this can cause them to explode. Please put dead batteries in with the normal household waste

NEVER



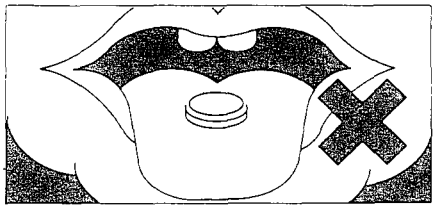
Never attempt to recharge ordinary batteries, either in a charger or by applying heat to them They may leak, cause fire or even explode There are special rechargeable batteries which are clearly marked as such

ALWAYS



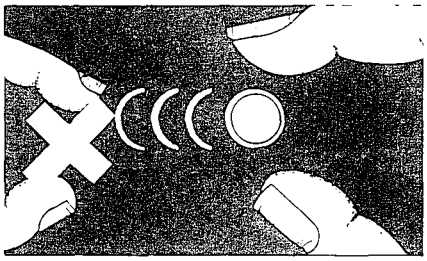
Supervise children if they are replacing batteries themselves in order to ensure these guidelines are followed

ALWAYS



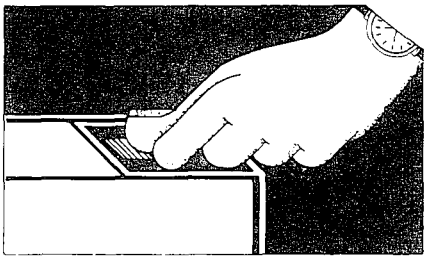
Remember that small button cell batteries such as used in some hearing aids, toys, games and other appliances, are easily swallowed by young children and this can be dangerous.

ALWAYS



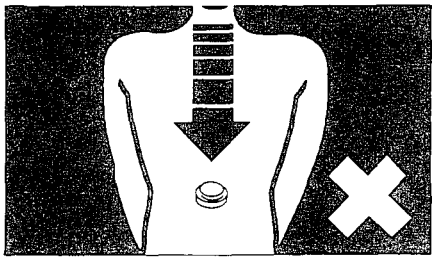
Keep loose button cells away from young children

ALWAYS



Make sure battery compartments are secure

ALWAYS



Seek medical advice if you believe a cell has been swallowed

PUBLISHED BY THE BRITISH BATTERY MANUFACTURERS ASSOCIATION 7 BUCKINGHAM GATE LONDON SW1E 6JS

SOME DO'S AND DON'TS ON THE SAFE USE OF EQUIPMENT

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

★★★★★★★★★★

DO read the operating instructions before you attempt to use the equipment.

DO ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections.

DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.

DO be careful with glass panels or doors on equipment.

★★★★★★★★★★

DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.

DON'T remove any fixed cover as this may expose dangerous voltages.

DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family know how to do this. Special arrangements may need to be made for infirm or handicapped people.

DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of traffic safety. It is illegal to watch television whilst driving.

DON'T listen to headphones at high volume, as such use can permanently damage your hearing.

DON'T obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.

DON'T use makeshift stands and ***NEVER*** fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.

DON'T allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL

- — ***NEVER*** **let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;**
- — ***NEVER*** **guess or take chances with electrical equipment of any kind**
- — **it is better to be safe than sorry!**

★★★★★★★★★★

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